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LECTURES

TO T

YA'YA PHILOSOPHY,

EMBRACING THE TEXT

OF THE

TARKA SANGRAHA.

INSTITUT FRANÇAIS D'INDOLOGIE
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PREFACE

TO THE

FIRST EDITION.

These lectures were delivered to the senior class of pupils in the English Department of the Benares College, with the view of introducing them to the philosophical terminology current among their learned fellow-countrymen, the pandits. The easiest, if not the only, way to obtain a thorough acquaintance with the force of the terms belonging to a philosophical system, is to study the system itself. The circumstances under which the lectures were delivered will account for their familiar tone, and for the introduction of various remarks which would have been superfluous if the work had been addressed to the learned of Europe.

J. R. B.

Benares College, 1848.

ADVERTISEMENT TO THE SECOND EDITION.

This edition has been carefully revised, and, in great part, rewritten. The most important alterations,—and, it is hoped, improvements,—are in the section on Inference, where the Inductive and Deductive divisions of the subject have been more clearly made out. The text of this edition has been carefully collated by my coadjutor, Mr. F. Edward Hall, who has also suggested occasional improvements in the rendering, prepared the list of Questions for Examination, and furnished the following observations on the text-book and its several commentaries.

J. R. B.

Benares College,
13th Nov. 1852.

If tradition may be credited, Annam Bhaṭṭa, the author of the *Tarka-sangraha*, flourished about two hundred years ago. He belonged to the Telanga race, and is said to have been, by sect, a S'aivá. As an author he is most widely known by his *Tarka-sangraha*, and by his commentary on it, the *Tarka-dípiká*. In addition to these works, he also composed notes on Kaiyyaṭa's commentary on the *Mahábháshya*. These, as well as the scholia of others of Kaiyyaṭa's annotators, having been superseded by the more recent elucidations of Náges'a Bhaṭṭa, are now seldom to be met with.

The *Tarka-sangraha*, considering its conciseness, as also its secular and rudimentary character, has been the subject of unusually copious and varied illustration. The subjoined catalogue of commentaries which it has elicited, is as complete as I have at present the means of making it.

I. The *Tarka-dípiká*, by the author of the text. This, the most difficult of the commentaries on the *Tarka-sangraha*, is also the only one among them that has been disseminated through the medium of the press. It was lithographed, with the text, by Munshí Budha Siṅha, at Benares, in 1850. The volume consists of 53 pages, running transversely, and contains 500 s'lokas, the commentary contributing about 350 of them.

The *Tarka-dípiká*, by reason of its abstruseness, is familiarly called, with allusion to the great logical commentary the *Gádádharí*, the *Bála-gádádharí*, or "lesser *Gádádharí*."

This commentary has been elucidated by

1. The *Hanumadíya*, by Hanumadáchárya, a follower of the Vaishṇava school of Madhwa Áchárya. This writer was a native of Karnáṭa, but

spent the greater portion of his life in the service of the Rája of Nagpur, at his capital. He is said to have died about a hundred years ago. The *Hariharadíya* contains nearly 6000 s'lokas.

2. The *Nílakanṭhí*, by Nílakanṭha S'ástrí, of Ballárí in Tailanga. The writer died at Benares about 30 years ago. The *Nílakanṭhí* contains not far from 1250 s'lokas.

The *Nílakanṭhí* has been interpreted in

a. The *Rámabhadrí*, by Rámabhadra Bhaṭṭa, a Tailanga. This work I have had no opportunity of inspecting, nor am I informed of its extent.

3. The *Tarka-dípiká* has also been annotated by the author of the *Nirukti*, No. III., in which allusion is made to it. In point of seniority, No. 3 precedes No. 2.

4. Mukunda Bhaṭṭa Gáḍegila, the author of No. V., is also said to have written a commentary on the *Tarka-dípiká*. One of my pandits professes to have seen the work, but has not been able to produce it.

II. The *Nyáya-bodhiní*, by Govardhana Mis'ra, a Gauḍa, the author of the *Tarka-bhásha-prakás'a*. The *Nyáya-bodhiní* is the simplest of all the commentaries on the *Tarka-sangraha*, and has considerable currency. It contains about 400 s'lokas.

III. The *Nirukti*, by Paṭṭábhiráma S'ástrí, a Tailanga of Chola. This, one of the easiest of the commentaries on the *Tarka-sangraha*, is reported to have been written for the instruction of the author's daughter. Paṭṭábhiráma is

supposed to have died about 75 years ago. The *Nirukti* contains nearly 600 slokas.

IV. The *Siddhánta-chandrodaya*, by Krishna Dhúrjatí Díkshita. It purports to have been composed for the use of Rájá Siñha, son of Rájá Gadá Siñha of Ujjayiní. This work is reputed the most difficult, after the *Tarka-dípiká*, of the various commentaries on the *Tarka-sangraha*. It contains about 1300 slokas.

V. The *Tarka-sangraha-chandriká*, by Mukunda Bhaṭṭa Gáḍegila, a Mahárásḥṭra. It contains about 1200 slokas.

VI. The *Pada-kṛitya*, by Chandraja Siñha, a Gauḍa Kshatriya. This work is read, to some extent, in the Gangetic provinces. It contains about 1000 slokas.

VII. The *Tarka-sangrahopanyása*, by Meru Sástrí, a Mahárásḥṭra sanñyásí of great local repute, still living at Benares. This work is much esteemed, though the author has not attached his name to it. It contains about 500 slokas.

These works have been arranged, as far as was practicable, in chronological order. This point, however, is scarcely determinable by any internal evidence afforded by the works themselves, or by any other treatises on the Nyáya which I have consulted. In arriving at my conclusions, I have, accordingly, been obliged to rely principally on living tradition, under confirmation or correction of the dates of transcription noted in the oldest procurable MSS. of each work. These commentaries being in prose, in order to convey a definite idea of their extent, I have employed, for facility, the native method of estimating the size of similar works. This method consists in computing the number of couplets to which they would correspond, if reduced to the measure of the Anushṭubh metre.

EXAMINATION QUESTIONS.

CHAPTER I.

1.—What and how many are the Categories, according to the Nyáya? § 2.

2.—What and how many are they, according to Aristotle? § 2.

3.—What is meant by the term Category or Predicament? § 2.

4.—What is the etymological meaning of the corresponding Sanskrit term? § 2.

5.—What and how many substances does the Nyáya recognise? § 3.

6.—Mention the chemical view of the composition of water. § 3.

7.—How does this view accord with that of the Nyáya? § 3.

8.—What two opinions are entertained, by European physicists, regarding the nature of Light? § 3.

9.—Does either of these opinions accord with that of the Nyáya? § 3.

10.—Why are Time and Space classed among Substances? § 3.

11.—How many are the Qualities, and what are they? § 4.

12.—What and how many varieties of Action are laid down in the Nyáya? § 5.

13.—What objection has been brought against the Nyáya division of action? § 5.

14.—How is Community divided? § 6.

15.—To what do these divisions correspond, in our phraseology? § 6.

16.—What are Ultimate Differences? § 7.

17.—Where are they held to reside? § 7.

18.—Give an example of Co-inherence. § 8.

19.—How many kinds of Non-existence are enumerated? Their names? § 9.

CHAPTER II.

20.—How is Earth defined? § 10.

21.—Of how many kinds is it said to be? § 11.

22.—In what character is it eternal, and in what character is it uneternal? § 11.

23.—Are the facts of Chemistry such as to render advisable the identification of the odorous with the earthy? § 11.

24.—What is meant by saying that Earth is uneternal in the form of aggregates? § 11.

25.—What says Empedocles on the subject of the common nature of the senses and the elements? § 11.

26.—Similarly, according to the Nyáya, what is the nature of the senses, severally? § 11.

27.—What is the Naiyáyika definition of Water? § 12.

28.—What does the Nyáya justly assert regarding levity? § 12.

29.—As the Naiyáyika view of levity is correct, do the holders of it also agree with the moderns in regard to the nature of cold? § 12.

30.—Define Light, according to the Nyáya? § 14.

31.—How is Light in the form of masses divided? § 14.

32.—In what is each supposed to be resident or produced? § 14.

33.—Does the theory of light and heat agree with that of the Nyáya? § 13.

34.—How do our views on the subject of vision differ from those of the Nyáya? § 14.

35.—Compare the Naiyáyika doctrine of intestinal heat with Liebig's theory of digestion. § 14.

36.—Why, in the Nyáya, is Gold held to be of the nature of light? § 14.

37.—How is it viewed in the Mímánsá philosophy? § 14.

38.—And how by European Chemists? § 14.

39.—Give the definition of Air, according to the Nyáya. § 15.

40.—What are the two European views of Air, as to its possessing colour? § 15.

41.—What reason is there for supposing that it has colour? § 15.

42.—What is meant by *práṇa*? § 16.

43.—As it is held to be of but one kind, how comes it to be spoken of as if it were of several kinds? § 16.

44.—What does Prof. Wilson remark in regard to the vital airs? § 16.

45.—Define the Ether of the Nyáya, and state its attributes. § 17.

46.—For what purpose is the Ether assumed, by the Naiyáyikas, as a fifth element? § 17.

47.—Compare, or contrast, the Nyáya theory of the senses, and their operation, with the ancient European theory of sensible forms. § 17.

48.—Define Time, and state its attributes. § 18.

49.—Define Place, and state its attributes. § 19.

50.—How is Soul defined and divided? § 20.

51.—State the definition and description of Mind. 21.

52.—What objection do the Naiyáyikas bring against the Mímánsá view of Mind? § 21.

53.—What analogy do the Naiyáyikas adduce in illustration of their opinion that the Mind can attend to only one object at a time? § 21.

54.—How is the phenomenon, instanced in this analogy, accounted for, in modern philosophy? § 21.

CHAPTER III.

55.—How does the Nyáya define Colour? § 22.

56.—How many varieties are there said to be of Colour, and where are they held to reside? § 22.

57.—How many and what varieties of Colour are held to reside in each of its substrata? § 22.

58.—According to Sir Isaac Newton, to what are the varieties of Colour owing? § 22.

59.—Define Savour, according to the Nyáya. § 23.

60.—Of how many kinds is it said to be, and what are they? § 23.

61.—In what substances is it held to reside? § 23.

62.—How many kinds of Savour are there held to be in Earth, and how many in Water? § 23.

63.—What is the European view of the savour of pure water? § 23.

64.—Define and divide Odour, according to the text-book. § 24.

65.—Where is it said to reside? § 24.

66.—State the Nyáya definition of Tangibility. § 25.

67.—What are its kinds, and where are they held to reside? § 25.

68.—Give the Naiyáyika definition of Number. § 27.

69.—Of what may Number be predicated? § 28.

70.—State the nature of Unity; and of Multiplicity. § 28.

71.—How is the transientness of uneternal Unity manifested? § 28.

72.—And how the universal transientness of Duality &c.? § 28.

73.—On what is Disjunction dependent? § 32.

74.—Define Weight, and state where it is held to reside. § 34.

75.—What modern experiments militate against the Nyáya, in this connection? § 34.

76.—According to the Nyáya, is levity a positive quality? § 34.

77.—What is the correct employment of the terms *light* and *heavy*? § 34.

78.—Define Fluidity, state to what substances it is held to appertain, and divide it. § 35.

79.—Where does each kind reside? § 35.

80.—Explain in what respects modern science is opposed to the Nyáya, respecting the nature of Fluidity. § 35.

81.—To what notion has the allusion, in the text, to liquified light, reference? § 35.

82.—Define Viscidity, and state its locus. § 36.

83.—Hence, of what nature are oil &c., agreeably to the Nyáya? § 36.

84.—How does this view apply to the case of mercury? § 36.

85.—Define Sound, and state where it is held to reside. § 37.

86.—How does this stand in regard to the European theory? § 37.

87.—Define Knowledge, and state its divisions, according to the Nyáya. § 38.

88.— Define Remembrance and Notion, and state the divisions of the latter. § 39.

89.—Give examples of each division. § 40.

90.—What is the technical Sanskrit name of Right Notion? § 40.

91.—How many kinds of Right Notion are there, and what are they? § 41.

92.—Of how many kinds are their instrumental causes, and what are they? § 41.

93.—How far is the philosophical nomenclature, here employed in Sanskrit, free from ambiguity? § 41.

94.—What does the Sánkhya say of the Naiyáyika conclusion from Similarity? § 41.

95.—Give the substance of the illustrations adduced in point. § 41.

96.—Define an Instrumental Cause. § 42.

97.—Define a Cause generally. § 43.

98.—Define an Effect. § 44.

99.—Show how this virtually corresponds with Mr. Mill's language. § 44.

100.—How many kinds of Cause are reckoned, and what are their names? § 45.

101.—Define and exemplify each. § 45.

102.—How far does this view of causes agree with that of the followers of Aristotle? § 45.

103.—How, in modern philosophy, has the application of the word *cause* been narrowed? § 45.

104.—What is understood by a Physical Cause? § 45.

105.—And what by an Efficient Cause? § 45.

106.—Define Perception. § 46.

107.—What is a Logical Individual? § 46.

108.—What does Mr. Moberly remark on this? § 46.

109.—Explain the terms *nirvikalpaka* and *savikalpaka*. § 46.

110.—What is an Induction? § 48.

111.—What is an Inference? § 48.

112.—What is syllogizing? § 48.

113.—Give examples. § 48.

114.—Explain and exemplify the application of the terms *vyápti* and *paksha-dharmatá*. § 48.

115.—Define the "subject's *possession*." § 48.

116.—Whence comes, perhaps, the formal difference between the phraseology of European logic and that of Indian, that the Hindús, in private reasoning, combine the major and minor premises in a single expression? § 48.

117.—Give, at full length, an example of inferring for oneself, and then of proving to another. §§ 49, 50.

118.—What underserved censures have been passed on the five-membered argumentative exposition? § 51.

119.—How has Ritter misunderstood the five-membered exposition? § 51.

120.—Explain how an induction is equivalent to the "Consideration of a Sign." § 52.

121.—How many kinds of Sign are there, and what are they? § 53.

122.—Illustrate the three in order. § 53.

123.—What is the Subject, in an argument? § 54.

124.—What is an "Instance on the same side"? § 54.

125.—What is an "Instance on the opposite side"? § 54.

126.—To what terms, employed by Bacon, do these expressions correspond? § 54.

127.—What are the various Semblances of a reason? § 55.

128.—Define and divide the Fallacy called *savyabhichára.* § 56.

129.—Define and exemplify the "Semblances of a reason" called *sádhárana, asádhárana, and anupasañhári.* §§ 56, 57, 58.

130.—Define and exemplify a *viruddha-hetu.* § 59.

131.—Define and exemplify a 'Counterbalanced' reason. § 60.

132.—State the three-fold division of an 'Unreal' reason. § 61.

133.—Exemplify the 'Unreal' reason called *ásrayásiddha.* § 62.

134.—Exemplify the 'Unreal' reason termed *swarúpásiddha.* 63.

135.—Define the 'Unreal' reason called *vyápyatwásiddha.* § 64.

136.—Define the logical term *upádhi.* § 64.

137.—Illustrate the expressions *sádhyavyápakatá* and *sádhanávyápakatá.* § 65.

138.—Define and exemplify a 'Futile' reason. § 67.

139.—Define *upamána.* § 68.

140.—Give an example of it. § 68.

141.—Define a "Trustworthy Assertion". § 69.

142.—Who is "One Worthy"? § 69.

143.—What is a Speech or Sentence? § 69.

144.—What is a "Grammatically inflected word"? § 69.

145.—In what is its Power here said to consist? § 69.

146.—What are the causes in the absence of which no sense can be gathered from a Sentence? § 70.

147.—Define the 'Expectancy' of a word. § 71.

148.—Define the 'Compatibility' of a word. § 71.

149.—Define the 'Juxta-position' of words. § 71.

150.—Exemplify the absence of these several requisites. § § 72, 73, 74.

151.—What is the literal meaning of *ákánkshá*? § 72.

152.—Define *s'ábda-jnána*. § 76.

153.—What are the divisions of "Incorrect Notion"? § 77.

154.—Define Doubt. § 78.

155.—Define Mistake. § 79.

156.—Define and exemplify *reductio ad absurdum*. § 80.

157.—What is the connection and difference between the three kinds of "Wrong Notion" just defined? § 80.

158.—Define Memory. § 81.

159.—How are Pleasure and Pain defined? § 82.

160.—Define Desire, Aversion, and Effort. § 83.

161.—What definition is given of Merit and Demerit? § 84.

162.—Which of the qualities belong to soul alone? § 85.

163.—What qualities are called self-reproductive? § 87.

CHAPTER IV.

164.—Define and divide Action. § 88.

CHAPTER V.

165.—Define Genus. § 89.

166.—To what terms, used by us in regard to Community, do the words *para* and *apara* correspond? § 89.

CHAPTER VI.

167.—What are called Differences? § 90.

CHAPTER VII.

168.—Define "Co-inherence." § 91.

CHAPTER VIII.

169.—How many and what are the varieties of Non-existence? § 92.

170.—Exemplify each. § 92.

171.—To what circumstance does the Vaiśeshika school owe its name? § 94.

172.—Who was the founder of the Vaiśeshika school, and who of the Naiyáyika? § 94.

EMENDATIONS.

Page.	Line.	
3	17	For *dig* read *dis´*.
4	13,14	For *Priority* and *Posteriority* read *Remoteness* and *Proximity*
14	22	Include '*Present,*' *and* '*Future,*' in brackets.
"	27	For *Space* read *Place*.
26	16	Delete the brackets enclosing *pramá*.
37	7	After *inherence in* add *what inheres in*.

LECTURES

ON THE

NYA'YA PHILOSOPHY.

THE compendium of the Nyáya system of philosophy, entitled the *Tarka Sangraha*, which we purpose here to translate and comment upon, has the following exordium :—

निधाय हृदि विश्वेशं विधाय गुरुवन्दनम् ।
बालानां सुखबोधाय क्रियते तर्कसङ्ग्रहः ॥

1. "" Having placed in my heart the Lord of the World, [that is to say, having meditated on God,] and having saluted my preceptor, I compose [this treatise, named] the Compendium of Logical Results, for the pleasant comprehension of the uninstructed."

a. The author then proceeds to enumerate the categories, or most general heads, under one or other of which every Name current in the world is capable of being classed. These, in accordance with the system of *Kaṇḍda*, followed by the author of the *Tarka Sangraha*, are enumerated in the next extract.

Chap. I.—The Categories.

द्रव्यगुणकर्मसामान्यविशेषसमवायाभावास्सप्त पदार्थाः ।

2. "Substance *(dravya)*, Quality *(guṇa)*, Action *(karma)*, Genus *(sámánya)*, Difference *(viśesha)*, Co-inherence (*samavdya*), and Non-existence (*abhdva*;—these are the seven Categories (*padártha*)."

a. The word Category is derived from a Greek word, corresponding to the Latin *predicamentum*, and signifying "what can be said or predicated" respecting the several things included under the term. For example, the Colour, Savour, and Odour of an apple are qualities. We predicate or assert that Colour comes under the category or predicament of Quality; and so of the others. But we cannot, correctly speaking, predicate any thing of Quality itself, except that it is one of the most general or comprehensive of Names. From its etymology it would seem that the word *padártha* is equivalent to *padasya artha*, "the meaning of a word;" and the meaning of every common term must be com-

prised under one or other of the Categories that constitute a correct division of Names.

b. Different schools of philosophy have adopted different sets of categories. Those of Aristotle, which correspond more nearly than any others with those of the Nyáya, are "substance, quantity, quality, relation, place, time, condition, possession, action, and passion."

c. Our text-book now proceeds to enumerate the sub-divisions of the Categories:—

तच द्रव्याणि पृथिव्यप्तेजोवाय्वाकाशकालदिगात्ममनांसि नवैव।

3. "Amongst those [that is to say, amongst the Categories,] Substances [that is to say, the abodes of Qualities,] are nine: Earth (*prithivi*), Water (*ap*), Light (*tejas*), Air (*váyu*), Ether (*ákáśa*), Time (*kála*) Place (*dik*), Soul (*átman*), and Mind (*manas*)."

a. Modern Chemistry has resolved Water into two gases, one of which is a constituent also of the compound air that we breathe. Earth is a very vague term, on which we shall have to remark further on. Philosophers are still divided in opinion as to whether Light is an imponderable substance, or the effect of undulation. The term Ether seems to be frequently employed in a sense scarcely differing from that of space in three dimensions. The specific quality assigned to it in the *Nyáya* system will be considered further on. [See § 17.] Time and Space are

here classed as *substances*, because the word substance is employed to signify that to which *qualities* can be attributed. How Soul and Mind come to be viewed as different substances, will appear in the sequel. [See §§ 20 and 21.]

b. The Qualities are next enumerated :—

रूपरसगन्धस्पर्शसङ्ख्यापरिमाणपृथक्त्वसंयोग-
विभागपरत्वापरत्वगुरुत्वद्रवत्वस्नेहशब्दबुद्धिसुखदुः-
खेच्छाद्वेषप्रयत्नधर्माधर्मसंस्काराश्चतुर्विंशतिर्गुणाः ।

4. "Colour (*rúpa*), Savour (*rasa*), Odour (*gandha*), Tangibility (*sparśa*), Number (*sankhyá*), Dimension (*parimáṇa*), Severalty (*prithaktwa*), Conjunction (*sanyoga*), Disjunction (*vibhága*), Priority (*paratwa*), Posteriority (*aparatwa*), Weight (*gurutwa*), Fluidity (*dravatwa*), Viscidity (*sneha*), Sound, (*śabda*), Understanding (*buddhi*), Pleasure (*sukha*), Pain (*dukkha*), Desire (*ichchhá*), Aversion (*dwesha*), [Will or] Effort (*prayatna*), Merit (*dharma*), Demerit (*adharma*), and the Self-reproductive (*sanskára*) ;—these are the twenty four qualities."

a. These will be severally considered in the sequel [—§ 22]. The varieties of action are next enumerated ;—

उत्क्षेपणापक्षेपणाकुञ्चनप्रसारणगमनानि पञ्च
कर्माणि ।

5 "Throwing upwards (*utkshepaṇa*), Throwing downwards (*apakshepaṇa*), Contraction (*ákunchana*), Expansion (*prasáraṇa*), and Going (*gamana*);—these are the five actions."

a. The last of these, viz., *gamana*, or "motion in general," includes all the varieties of motion not previously enumerated, and might very well include also these four results of the exertion of force.

परमपरं चेति द्विविधं सामान्यम् ।

6. "Genus (*sámánya*) [that is to say, a common nature, as the nature common to jars, the nature common to webs, &c.,] is of two kinds, higher (*para*) and lower (*apara*)."

a. These correspond to *genus* and *species*, as will be shown further on. [See chap. VII.]

नित्यद्रव्यवृत्तयो विशेषास्त्वनन्ता एव ।

7. "Differences (*viśesha*), which reside in eternal substances, [such as mind, soul, time, place, and those atoms of which the *Nyáya* philosophers consider earth, water, &c., to be composed,] are endless."

समवायस्त्वेक एव ।

8. "But Co-inherence (*samaváya*) is one only."

a. Such is the relation between a web and the threads of which it is formed, the relation between a body and the parts of which it is made up.

अभावश्चतुर्विधः प्रागभावः प्रध्वंसाभावोऽत्य-

न्ताभावोऽन्योन्याभावश्चेति ।

9. "Non-existence (*abhâva*) [that is to say, the fact of not existing,] is of four kinds, antecedent non-existence (*prâgabhâva*), destruction (*pradhwañsábhâva*), absolute non-existence (*atyantábhâvá*), and mutual non-existence [or difference] (*anyonyábhâva*)."

a. Having thus subdivided the categories, the writer of our text-book proceeds to consider each of the subdivisions in detail.

Chap. II.—The Substances.

तच्च गन्धवती पृथिवी। सा द्विविधा नित्यानित्या चेति । नित्या परमाणुरूपा । अनित्या कार्यरूपा।

10. "Earth is that in which there is the quality Odour. It is of two kinds, eternal and uneternal. In its atomic character it is eternal; and when in the shape of some product [which has arisen out of those atoms, then] it is [said to be] un-eternal."

a. In order to come to a right understanding with the supporters of the view here laid down, it is necessary, in the first place, to enquire whether the first proposition is intended as a definition, or as a dogma. If as a definition of the sense in which the *Nydya* philosopher intends to employ the term "earth," then it must be conceded that, as the propounder of

any theory has a right to define his terms as he pleases, provided he keeps strictly to his definition throughout the argument, and does not attempt to apply, in any different sense of the terms, the conclusions thus obtained, the *Nyáya* philosopher is, on this understanding, fully entitled to call every thing earth that smells, and nothing earth that does not smell. The question then remaining will be, whether the division of objects into odorous and inodorous is of any service in rendering our acquired knowledge more distinct, or in facilitating the acquirement of fresh knowledge. Let us see how the case stands. Ammoniacal gas, composed of the two simple and inodorous gases, Hydrogen and Nitrogen, is powerfully odorous. Will it facilitate, or obstruct, our acquaintance with the character and the relations of this substance, if we separate it from the class of airs, and associate it with stones or flowers? History must answer this question —the history of the progress of chemical discovery under the elemental theory and that of inductive analysis.

b. If, on the other hand, the proposition that "Earth is distinguished by the quality of smell," is intended, not as a definition of the sense in which the term "Earth" is to be employed throughout the argument, but as an assertion that there actually is one real and distinct principle which is the constituent equally of every thing that is odorous;—then the philosophy of modern Europe demurs to the proposition. It is not self-evidently true. If it be true, therefore, it must be shown to be so, by the adduc-

tion of evidence. This is not furnished by our text-book.

c. The transitoriness of earth in the form of aggregates signifies the want of permanence in the forms, such as jars, &c., which it may assume. The jar, when crushed to powder, is no longer a jar; but the earth of which it was composed still remains.

d. Our text-book proceeds to subdivide the products of earth as follows:—

पृथ्वित्रिविधा शरीरेन्द्रियविषयभेदात्। शरीरमस्मदादीनाम्। इन्द्रियं गन्धग्राहकं घ्राणं नासाग्रवर्ति। विषयो मृत्पाषाणादिः।

11. "This [that is to say, Earth in the character of a product,] is of three kinds, through these differences; body (*śarîra*), organ of sense (*indriya*), and mass (*vishaya*). The body is that of us men. The organ is the apprehender of odour, [called] the Smell (*ghrâṇa*), which resides in the fore-part of the nose. And the masses are clods, stones &c."

a. The notion that the senses and the elements partake of a common nature, appears also to have been that of Empedocles, who (as quoted and translated by Prof. Wilson, in the Sánkhya Kárikâ, p. 122,) says:

'By the earthy element we perceive earth; by the watery, water; the air of heaven by the aerial element; and devouring fire by the element of fire.'

[See, further, § 17, *b*.]

The senses are regarded as being each of the same nature with that constituent of the external world which each severally takes cognizance of. There are five senses, and these take notice of five distinct kinds of qualities, to furnish substrata for which the five Elements are postulated.

शीतस्पर्शवत्य आपः ।

12. "That which appears cold on touching it, they call Water."

a. In the sequel our text-book offers the just observation that levity is not an entity, but is only the absence of gravity. Modern philosophers hold that *cold* is, in like manner, the absence, or, rather, a low degree, of heat. Water, hotter, or colder than the body, or of the same temperature with the body, feels hot, or cold, or of medium temperature, just as iron or air feels, according to the greater or less amount of heat, as compared with the body, that it contains at the time.

ताः द्विविधा नित्या अनित्याश्च । नित्याः परमाणुरूपाः । अनित्याः कार्यरूपाः । पुनस्त्रिविधाः शरीरेन्द्रियविषयभेदात् । शरीरं वरुणलोके । इन्द्रियं रसग्राहकं रसनं जिह्वाग्रवर्ति । विषयः सरित्समुद्रादिः ।

13. "And that [namely, water,] is of two kinds—

eternal and un-eternal. In the form of atoms it is eternal; and when a product is produced by those atoms, then that is called un-eternal. [In the form of products,] again, it is of three kinds, through the difference of body, sense, and mass. The body [that is formed of water] exists in the world of Varuṇa [the god of the waters]; and the sense is the percipient of savour, [which is called] the Taste,—residing in the fore-part of the tongue. The masses are rivers, seas, and the like."

उष्णस्पर्शवत्तेजः । तद्द्विविधं नित्यमनित्यं च । नित्यं परमाणुरूपमनित्यं कार्यरूपम् । पुनस्त्रिविधं शरीरेन्द्रियविषयभेदात् । शरीरमादित्यलोके । इन्द्रियं रूपग्राहकं चक्षुः कृष्णताराग्रवर्ति । विषयश्चतुर्विधः भौमदिव्यौदर्याकरजभेदात् । भौमं वह्न्यादिकम् । अबिन्धनं दिव्यं विद्युदादि । भुक्तस्य परिणामहेतुरौदर्यम् । आकरजं सुवर्णादि ।

14. "That of which the sensation by touch is warm, they call Light. This is of two kinds, eternal and un-eternal. In the form of atoms it is eternal, and in the form of products it is un-eternal. This [light in the form of products,] again, is of three kinds, through the difference of body, sense, and mass. The body exists in the solar realm. The sense, the percipient of colour, [which is called] the Sight

(chakshush), resides in the fore-part of the pupil of the eye. The masses are of four kinds, through these differences—residing in earth (*bhauma*), residing in the sky (*divya*), resident in the stomach (*audarya*), and produced in mines (*ákaraja*). Residing in earth, it is fire, &c. Residing in the sky, it is lightning and the like, the fuel of which is water. That is resident in the stomach which is the cause of the digestion of things eaten. That [light] which is produced in mines is gold and the like."

a. The *Nyáya* regards light and heat as one and the same substance. Modern research has discovered striking analogies, not only between light and heat, but also between these and electricity and magnetism; but whether they are radically the same, or different, has not yet been determined by investigation. In the *Nyáya*, the organ of sight is said to be a ray of light proceeding from the pupil of the eye towards the object viewed. Modern optical science pronounces that we see by means of rays coming to, not proceeding from the eye.

b. The doctrine of intestinal heat seems like an anticipation of Liebig's theory of digestion; but it reverses the order of cause and effect. The animal heat *arises* from the digestion of the food; the body acting, as Liebig tells us, "as a furnace which we supply with fuel."

c. Gold is supposed, by the *Naiyáyikas*, to consist of light, and not to be earthy, like the other metals; because the strongest heat of a furnace is insufficient to calcine it, or turn it into an earthy-looking oxide.

d. In the *Mímánsá*, gold is reckoned a distinct substance, as it is by European chemists.

रूपरहितस्पर्शवान्वायुः । स द्विविधो नित्योऽनित्यश्च । नित्यः परमाणुरूपोऽनित्यः कार्यरूपः । पुनस्त्रिविधः शरीरेन्द्रियविषयभेदात् । शरीरं वायुलोके । इन्द्रियं स्पर्शग्राहकं त्वक् सर्वशरीरवर्ति । विषयो वृक्षादिकम्पनहेतुः ।

15. "That which has not colour, and has tangibility, they call Air. It is of two kinds—eternal and un-eternal. In the form of atoms it is eternal; and in the form of products it is un-eternal. This, again, [in the form of products,] is of three kinds, through the differences of body, sense, and mass. The [aerial] body is in the aerial world. The sense is the Touch *(twach)*, the apprehender of tangibility, existing throughout the whole body. Its mass is that which is the cause of the shaking of trees and the like."

a. Air is, by many people, in the present day, regarded as colourless; but, if the colour of a body be that coloured ray which it reflects, then air should be considered to be blue, for it reflects the blue rays. The colour of a small quantity of air is not perceptible; but when we look at a distant mountain, the colour of the large mass of intervening air causes the mountain to appear blue.

शरीरान्तः सञ्चारी वायुः प्राणः सचैकोऽप्युपाधिभेदात्प्राणापानादिसञ्ज्ञां लभते।

16. "Air circulating within the body is called *práṇa*. Although it is but one, yet, from the difference of its accidents, it takes the name of breath, flatulence, &c."

a. On this opinion Professor Wilson (p. 104 of his edition of the *Sánkhya Káriká*,) remarks: "The vital airs are, in fact, the vital functions of breathing, circulation, and digestion. That these functions, resulting from organization, should be supposed to partake of the nature of aerial humours, originates very possibly from some misapprehension of the phenomena of breathing, flatulence, and arterial pulsation."

शब्दगुणकमाकाशं तच्चैकं विभु नित्यं च ।

17. "They call that Ether in which there resides the quality of sound. It is one, all-pervading, and eternal."

a. This element is inferred, in order to account for sound, and to provide each of the senses with a separate element. As pure air and water are devoid of odour, it seems to have been decided, by the *Naiyáyikas*, that odour is the distinctive evidence of earth. The perception of savour being dependent on the presence of moisture in the mouth, it was decided that the sense of taste must be aqueous in its nature. The relation between light and vision was obvious. The air, again, having been appropri-

ated to the sense of touch, which pervades the body just as the air usually envelops it, there remained nothing for it, if the uniformity of the system was to be kept up, but to postulate a fifth elementary substance to account for hearing; and this received the name of Ether.

b. The Nyáya theory of the senses and their operation, is in some respects the converse of the theory of ideas, or the older European theory of sensible forms. In that theory, outward bodies were supposed to send refined copies of themselves to the mind through the senses. Here, on the other hand, the mind is viewed as despatching a sense towards its object, in a material state resembling that of the object itself. Thus, luminous bodies are represented as being discerned by means of a ray of light, which proceeds from the eye, and which constitutes the sense of sight.

अतीताद्व्यवहारहेतुः कालः स चैको विभुर्नित्यश्च ।

18. "The cause of the employment of 'Past,' 'Present,' and 'Future,' they call Time. It is one, all-pervading, and eternal."

प्राच्यादिव्यवहारहेतुर्दिक् सा चैका विभ्वी नित्या च ।

19. "The cause of the employment of 'Eastern' &c., they call Space. It is one, all-pervading, and eternal."

ज्ञानाधिकरणमात्मा। स द्विविधो जीवात्मा परमात्मा चेति। तत्रेश्वरः सर्वज्ञः परमात्मा एक एव। जीवः प्रतिशरीरं भिन्नो विभुर्नित्यश्च ।

20. "The substratum of Knowledge [that is, that in which knowledge resides,]—they call Soul (*átman*). It is of two kinds, the animal soul and the Supreme soul. Of these two, the Supreme soul is God, the Omniscient. He is One only. And the animal [soul] is distributed to each body. It is all-pervading and eternal."

a. The reason assigned for saying that the human soul is all-pervading, is this, that whithersoever the body goes, there the soul too is present.

सुखाद्युपलब्धिसाधनमिन्द्रियं मनः। तच्च प्रत्यात्मनियतत्वादनन्तं परमाणुरूपं नित्यं च ।

21. "The organ which is the cause of the perception of pleasure &c., they call the Mind (*manas*). And it is innumerable, for this reason, that one remains with each Soul. It is in the form of an atom, and is eternal."

a. The *Naiyáyikas* argue that the mind is minutely small, as an atom, because, if it were infinite, as the *Mímánsá* maintains, it might be united with everything at once, and all sensations might be con-

temporaneous. Various cognitions, the *Naiyáyikas* contend, do not arise at one time to the same soul. "They only seem to do so when passing rapidly, though successively; as a firebrand, whirled with velocity, seems a ring of fire."—The phenomenon here instanced is accounted for, in modern philosophy, by the statement that the retina retains impressions for a short time after the exciting cause has been removed. Analogously, the ear apprehends one continuous sound when the succession of sounds is very rapid, as when a slip of wood is successively struck by the teeth of a rapidly revolving wheel.

b. Having finished his account of substance, our author proceeds to treat of quality.

Chap. III.—The Qualities.

चक्षुर्माचग्राह्यो गुणो रूपम्। तच्च शुक्लनील-पीतरक्तहरितकपिशचित्रभेदात्सप्तविधम्। पृथिवी-जलतेजोवृत्ति। तच पृथिव्यां सप्तविधम्। अभा-स्वरं शुक्लं जले। शुक्लं भास्वरं तेजसि।

22. "That quality which is apprehended only by the sense of Sight, is Colour. And this [quality] is of seven kinds, through these differences, white, blue, yellow, red, green, brown, and variegated. This [quality] resides in earth, water, and light. In earth it is of all the seven kinds; in water it is white and not lustrous; in light it is white and lustrous."

a. The researches of Sir Isaac Newton lead to the conclusion that colour belongs to light only, and that a ray of white light contains all the primary colours, which can be separated by a prism of glass. An object appears of the colour of the ray which it reflects; and the different power, in different bodies, to absorb one portion of a white ray and to reflect the coloured residue of the ray, gives rise to the variety of colours visible in nature.

रसनग्राह्यो गुणो रसः। स च मधुराम्ललवण-
कटुकषायतिक्तभेदात् षड्विधः। पृथिवीजलवृत्तिः।
पृथिव्यां षड्विधः जले तु मधुर एव ।

23. "The quality which is apprehended through the sense of Taste, is Savour. And it (namely, the quality of Savour,) is of six kinds, through the differences of Sweet, Sour, Saline, Bitter, Astringent, and Pungent. It resides in earth and water. In earth it is of the six kinds; but in water there is only the sweet savour."

a. It would be more in accordance with the usage of modern language, to say that pure water is devoid of savour, although moisture is indispensable to the perception of the savour residing in other substances. The term sweet more properly suggests the taste of sugar and the like.

घ्राणग्राह्यो गुणो गन्धः। स च द्विविधः सुर-

भिरसुरभिश्च । पृथिवीमात्रवृत्तिः ।

24. "The quality which is apprehended by the sense of Smell, is Odour. And it is of two kinds, fragrance and stench. It resides in earth alone."

a. On the opinion that odour is peculiar to earth we have already remarked. [See § 10, *a*, *b*.] The division into fragrance and stench is not so much a division of odours as they are in themselves, but rather as they affect individuals agreeably or otherwise. The odour of musk is fragrance to one man, and stench in the nostrils of another.

त्वगिन्द्रियमात्रग्राह्यो गुणः स्पर्शः। स च त्रिविधः शीतोष्णानुष्णाशीतभेदात्। पृथिव्यप्तेजोवायुवृत्तिः। तत्र शीतं जले । उष्णस्तेजसि । अनुष्णाशीतः पृथिवीवाय्वोः ।

25. "The quality which is perceived only by the organ of Touch is Tangibility. And this is of three kinds, through the distinctions of cold, warm, and temperate, [that is to say, neither cold nor warm]. This quality resides in earth, water, light, and air. Coldness to the touch resides in water, warmth to the touch in light, and temperateness in earth and air."

a. The feeling here described is that of temperature only; and it is perhaps of that only that the organ gives us information without the coöperation

of our muscular frame, which, by creating or offering resistance, conduces to the sensation of hardness, roughness, and the like.

रूपादिचतुष्टयं पृथिव्यां पाकजमनित्यं च। अन्यचापाकजम्। नित्यमनित्यं च। नित्यगतं नित्यम्। अनित्यगतमनित्यम्।

26. "The four of which Colour is the first, [that is to say, Colour, Savour, Odour, and Tangibility,] may be produced in Earth, [that is to say, in earthy things,] by maturation, [that is to say, by the special conjunction of Heat;] and they are then transient. In others, [that is to say, in Water, Light, and Air,] Colour and the like are not owing to the conjunction of Heat. They are [in Water &c.,] eternal, or transient. When they reside in eternal things [as Atoms,] they are eternal, and when they reside in things not eternal [viz. products,] they are transient.

एकत्वादिव्यवहारहेतुः सङ्ख्या।

27. "The cause of the employment of the terms Unity &c., is Number."

नवद्रव्यवृत्तिः। एकत्वादिपरार्द्धपर्यन्ता। एकत्वं नित्यमनित्यं च। नित्यगतं नित्यम्। अनित्यगतमनित्यम्। द्वित्वादिकं तु सर्वचानित्यमेव।

28. "This, [that is to say, Number,] resides

in the nine Substances; and, beginning with Unity, it extends to the utmost limit of numeration *(parârdha)*. Unity is both eternal and un-eternal. It is eternal in an eternal thing, and un-eternal in an un-eternal thing :—but Duality and the like is everywhere un-eternal."

The word here rendered "the utmost limit of numeration," is "one hundred thousand billions." The transientness of un-eternal unity is seen in the breaking of a jar, which then ceases to be "one jar." The universal transientness of duality &c., implies the possibility that two or more things—such as drops of water—may run into *one*, and so the duality may perish.

मानव्यवहारासाधारणकारणं परिमाणम्। नव-द्रव्यवृत्ति। तच्चतुर्विधं अणु महद् दीर्घं ह्रस्वं चेति।

29. "The peculiar cause of the employment of the term Bulk, is Measure. This quality resides in the nine Substances. It [that is to say, Measure,] is of four kinds—through the distinctions of small, great, long, and short."

पृथग्व्यवहारासाधारणकारणं पृथक्त्वम्। सर्व-द्रव्यवृत्ति।

30. "The peculiar cause of the employment of the term numerically distinct, is Severalty. This quality resides in all the Substances."

संयुक्तव्यवहारहेतुः संयोगः । सर्वद्रव्यवृत्तिः ।

31. "The cause of the employment of the term 'conjoined,' is Conjunction. This quality resides in all the Substances."

संयोगनाशको गुणो विभागः । सर्वद्रव्यवृत्तिः ।

32. "The quality which annihilates Conjunction is Disjunction. This resides in all the Substances."

a. Disjunction, it is to be remarked, occurs only when conjunction has preceded.

परापरव्यवहारासाधारणकारणे परत्वापरत्वे । पृथिव्यादिचतुष्टयमनोवृत्तिनी । ते द्विविधे दिक्कृते कालकृते च । दूरस्थे दिक्कृतं परत्वं समीपस्थे दिक्कृतमपरत्वम् । ज्येष्ठे कालकृतं परत्वं कनिष्ठे कालकृतमपरत्वम् ।

33. "The peculiar causes of the employment of the two terms Far and Near, are Remoteness and Proximity. These qualities reside in the four beginning with earth, and in mind. They are of two kinds—made by Space and made by Time. There is Remoteness made by space in that thing which remains in a distant place, and Proximity made by space in that thing which remains in a place near. In the person who is the elder there is Remoteness made by time;

and in the person who is the younger there is Proximity made by time."

a. Reckoning either backwards or forwards from the point, in space or time, occupied, or supposed, by the speaker, that one of two things which is nearest he calls *apara*, and that which is further off he calls *para*.

आद्यपतनासमवायिकारणं गुरुत्वम्। पृथिवीजलवृत्ति।

34. "The non-intimate cause of incipient falling, is Weight. This quality resides in earth and in water."

a. Gravity is here spoken of as being confined to earth and water. If Gautama or Aristotle had lived to witness the experiments of Torricelli and Pascal, they would have changed their opinions respecting the supposed absence of gravity in the atmosphere. Gold was the heaviest substance known to the ancients, who were not acquainted with Platinum; yet, according to the *Nyâya* view that gold is solidified light, it ought to have no gravity. This difficulty is met by saying that some earth is combined with light in the process of solidification (—which reminds us of the opinion of Paracelsus, that Gold is Mercury with its pores saturated with light—); but the puzzle remains, how, with only a portion of gravitating matter, gold should be heavier than every other substance with which the *Naiyâyikas* were acquainted.

b. A noticeable decision of the *Naiydyikas* was this, that levity is not a distinct quality, but the negation of gravity. Light and heavy are, in truth, relative terms. Stone is light in comparison with iron, but heavy in comparison with wood. The lightness here consists, not in the absolute negation of gravity, but in the absence of so much as would have made the two equally heavy.

c. Gravity is spoken of as the cause of *incipient* falling,—the continued descent being attributed exclusively to momentum. Thus the accelerated motion of falling bodies appears to have escaped the observation of the Naiyáyikas.

आद्यस्यन्दनासमवायिकारणं द्रवत्वम्। पृथिव्यप्तेजोवृत्ति। तद् द्विविधं सांसिद्धिकं नैमित्तिकं च। सांसिद्धिकं जले। नैमित्तिकं पृथिवीतेजसोः। पृथिव्यां घृतादौ अग्निसंयोगजन्यं द्रवत्वम्।

35. "The non-intimate cause of incipient trickling, [that is to say, oozing, or melting, or flowing,] is Fluidity. It belongs to earth, light, and water. This quality is of two kinds —natural and adscititious [that is to say, produced by some cause]. Natural Fluidity resides in water. Adscititious Fluidity belongs to earth and light. In earthy substances, butter and the like, Fluidity is produced by the conjunction of fire."

a. Modern discovery tends to establish the opinion that what *Kaṇḍa* regarded as the adscititious cause of fluidity, is in reality the indispensable cause of it. In the opinion of the *Naiyâyikas*, "fluidity essentially exists in hail and ice; but is obstructed by an impediment." This impediment is no other than the abstraction of heat, which also solidifies molten lead after it has been removed from the fire. The three states of solid, liquid, and aëriform, most probably belong equally to every substance—or, at least to every uncompounded substance; for heat separates many compounds. Every one who has studied the works of modern chemists will admit the probability of this view.

b. The rendering of Light fluid by means of fire, alluded to in the text, has reference to the notion that gold is solidified light. [See § 34, *a.*]

चूर्णादिपिण्डीभावहेतुर्गुणः स्नेहो जलमात्रवृत्तिः ।

36. "The quality which is the cause why particles and the like become a heap, is Viscidity. This quality resides in water alone."

Hence the *Naiyâyikas* hold that oil &c., are viscid only in consequence of their containing water. Oil contains the elements of water, but mercury does not—yet the particles of mercury collect into heaps just as those of oil or water do. The pheno-

menon, in each of these cases, falls under what is termed, in modern science, the attraction of cohesion.

श्रोत्रग्राह्यो गुणः शब्दः। आकाशमात्रवृत्तिः। स द्विविधः ध्वन्यात्मको वर्णात्मकश्चेति। ध्वन्यात्मको भेर्यादौ। वर्णात्मकः संस्कृतभाषादिरूपः।

37. "Sound is the quality which is apprehended by the organ of hearing *(śrotra)*. It resides only in the Ether. It is of two kinds, inarticulate and articulate. In a drum or the like it is inarticulate. In the shape of the Sanskrit, or any other language, it is articulate."

a. On the question of the medium of sound we have already offered some remarks. [See § 17, *a.*]

सर्वव्यवहारहेतुर्बुद्धिर्ज्ञानम्। सा द्विविधा स्मृतिरनुभवश्चेति।

38. "Knowledge, which is the cause of every application [of names to things], is Understanding *(buddhi)*. It is of two kinds, Remembrance and Notion."

संस्कारमात्रजन्यं ज्ञानं स्मृतिः। तद्भिन्नं ज्ञानमनुभवः। स द्विविधो यथार्थोऽयथार्थश्च।

39. "The knowledge which is produced only by

its own antecedence [i. e., by itself as its own antecedent,] is Remembrance *(smṛiti)*:—and knowledge which is different from that is called Notion *(anubhava)*. This [that is to say, Notion,] is of two kinds—right and wrong."

a. The nature of memory will be considered when we come to the consideration of the qualities which are self-reproducing. [See § 87.]

तद्वति तत्प्रकारकानुभवो यथार्थः। यथा रजते इदं रजतमिति ज्ञानम्। सैव प्रमेत्युच्यते। तद्भाववति तत्प्रकारकानुभवोऽयथार्थः। यथा शुक्ताविदं रजतमित्यादि ज्ञानम्।

40. "Of whatever description anything is, a notion of that same description is a right notion:—as, in the case of Silver, the idea of its being Silver. This is called *(pramá)* [that is to say, commensurate with its object]. The supposing a thing to be as the thing is not—such a notion is called a wrong notion:—as, in the case of a [pearly] Shell, the notion of its being Silver."

यथार्थानुभवश्चतुर्विधः प्रत्यक्षानुमित्युपमितिशब्दभेदात्। तत्करणमपि चतुर्विधं प्रत्यक्षानुमानोपमानशब्दभेदात्।

41. "Right notion is of four kinds, according to

the division of Perceptions (*pratyaksha*), Inferences (*anumiti*), Conclusions from similarity (*upamiti*), and authoritative Assertions understood (*śábda*). And the instrumental causes of these also are of four kinds—according to the division of Perception (*pratyaksha*), Inductive generalizations (*anumána*), Recognition of similarity (*upamána*), and authoritative Assertion (*śabda*)."

a. The merit of the Sanskrit philosophical nomenclature, is observable in this passage, where we find the instrument in the production of knowledge, in three cases out of the four, distinguished by a name different from that which denotes the result of its employment, yet etymologically related to it. The term for Perception labours under the same defect as the English word; the act and the result being denoted by the same ambiguous term. The Conclusion from similarity is included, and properly, in our opinion, by the followers of the *Sánkhya* philosophy, under authoritative Assertion. When a man, to take the familiar illustration instanced by the *Naiyáyikas*, is told that a *gayál (bos gavaeus)* is like a cow, and so recognises the *gayál*, when he meets with it, by its resemblance to a cow, his knowledge is based on the affirmation of the person who stated the resemblance to him. In a strict classification, founded on a complete analysis, affirmation would not appear as a specifically distinct ground of knowledge or belief, for it is itself indebted to inference for all its efficacy. We believe testi-

mony only where we have inferred that it is trustworthy. Every one is not aware of having made an inference in such a case, because it is not every one that is capable of noting and analysing the operations of his own mind, even were it to occur to him to attempt it. A young Arab believes the *Qurán* on the testimony of his father, because he has observed, during his own infancy, that his father is a much better informed person than himself; and he has always found it safer to take his father's word on any point than to decide, in opposition to it, on the strength of his own experience. He therefore infers that his father's word is to be trusted in regard to the *Qurán* also; and he infers that what he finds written in it is true, because this follows of course from the belief that his father had given a true account of the matter. Now, if, forgetting, or not perceiving, the real foundation of his belief, the young Arab grows up under the habitual impression that the *Qurán* is in itself an authority standing in need of no process of inference, from matters extrinsic or intrinsic, for its establishment, then he must needs remain a Muhammadan to the end of his days, though no one but a Muhammadan will think that his notion is a right one.

व्यापारवदसाधारणकारणं करणम् ।

42. "A cause with an operation, not one of those causes common to all effects, is called an instrumental cause *(karana)*."

अनन्यथासिद्धकार्यनियतपूर्ववृत्ति कारणम् ।

43. "That which is invariably antecedent to some product, and is not otherwise constituted—[i. e., is not by any thing else,—except the result in question, —constituted a cause],—is the cause *(kárana)* [of that product]."

कार्यं प्रागभावप्रतियोगि ।

44. "That which annuls its own antecedent non-existence is called an Effect *(kárya)*."

a. This is in accordance with Mill's proposition (Logic, Vol. I. p. 395,) that "It is a universal truth that every fact, which has a beginning, has a cause."

कारणं त्रिविधं समवाय्यसमवायिनिमित्त-भेदात्। यत्समवेतं कार्यमुत्पद्यते तत्समवायि कारणं यथा तन्तवः पटस्य पटश्च स्वगतरूपादेः। कार्येण कारणेन वा सहैकस्मिन्नर्थे समवेतत्वे सति कारणमसमवायिकारणं यथा तन्तुसंयोगः पटस्य तन्तुरूपं पटरूपस्य। तदुभयभिन्नं कारणं निमित्तकारणं यथा तुरीवेमादिकं पटस्य। तदेतत्त्रिविधकारणमध्ये यदसाधारणं कारणं तदेव करणम्।

45. "Cause is of three kinds, according to the distinction of substantial (*samavdyi*), non-substantial (*asamaváyi*), and instrumental (*nimitta*). That in

which an effect intimately relative to it takes its rise, is a substantial cause [of that effect], as threads are of cloth, and the cloth itself of its own colour, &c. Where this intimate relation exists, that cause which is associated in one and the same object [as a necessarily immanent cause,] with such effect or cause, is the non-substantial. Thus, the conjunction of the threads is the non-substantial cause of the cloth, and the colour of the threads that of the colour of the cloth. The cause which is distinct from both of these is the instrumental cause, as the weaver's brush, the loom, &c., are of cloth. Among these three kinds of causes, that only is called an instrumental cause which is not a universally concurrent cause [or condition of all effects, as God, time, place, &c., are]."

a. Let us compare this view of causes with the view taken by the followers of Aristotle. In the opinion of these speculators, four things were entitled to the name of cause; and these were severally termed the *material*, the *efficient*, the *formal*, and the *final*. That out of which any thing is made, as the marble out of which a statue is made, they termed its material cause. This corresponds to the *samavâyi-kâraṇa*, or substantial cause, of the text. It is the ground of the possibility of a thing's coming into existence. The efficient cause was that in which resides the moving power requisite in order to render the possible existence actual; as the sculptor. According to the *Nyâya*, the sculptor would be classed, along with his

chisels, as one among the several *nimitta-kárana*, or instrumental causes. The final cause of a thing, according to the Aristotelian view, is that very thing in its completeness; as the statue when made. In modern language, (founded on this view,) the final cause is synonymous with the purpose to which any object is supposed to contribute: thus the promotion of vegetation may be regarded as the final cause of rain. This corresponds to what the *Naiydyikas* term *prayojana*, motive or purpose. The formal cause is that which must supervene to the matter, in order to give the thing its precise individual existence as that thing and no other; as the shape which the sculptor communicates to the marble. This corresponds to the *asamavdyi-kárana*, or non-substantial cause, of the text, in so far as it is concerned about the relative distribution of the parts of which the aggregate is made up.

b. The word "form", it may be here noticed, is employed in a peculiar sense by Bacon, to denote that in virtue of which a given quality resides in a given thing; as transparency in glass. "The [Baconian] form, then, (*vide* Preliminary Dissert., Enc. Brit., p. 459,) differs in nothing from the cause; only we apply the word *cause* where it is an event or change that is the effect. When the effect or result is a permanent quality, we speak of the form or essence."

c. In modern philosophy, the employment of the word cause has been much simplified. We now speak of the marble as the material of the statue, not as its material cause. The term "final cause" is

still current, but in the somewhat relaxed sense that we have already stated. The arguments for the existence of a Deity, drawn from the observation of nature, have reference to final causes. Harvey was led to the discovery of the circulation of the blood, by enquiring into the final cause of, or purpose to be subserved by, the valves in the blood-vessels.

d. The scientific employment of the word cause, in modern philosophy, has respect to the familiar truth, (as stated by Mill,—Logic, Vol. 1. p. 397,) "that invariability of succession is found by observation to obtain between every fact in nature and some other fact which has preceded it." Of two facts so related, that which precedes is termed the cause of the other. To prevent misconception, it is frequently termed the *physical* cause; the word physical serving to signify that we are speaking merely of the invariable relation of succession observed in nature between the two facts, and not of any efficiency in the antecedent for the production of the consequent. That efficiency we cannot well conceive to consist in anything else than the fact that the relations observed in nature are such as the Author of Nature has thought fit to establish among his works. The efficiency of a cause consists in its being God's will that it should be efficient. This, in our opinion, is what is conveyed by the Arabic expression *musabbib-ul-asbáb*, usually rendered "The causer of causes;" but which, to our mind, rather expresses, "Who maketh

causes to be efficiently such," or "Who bestoweth on something that in virtue of which it becomes a cause."

e. Let us see how the chain of cause and effect, in regard to the production of cloth, looks when we resolve the variously named causes of the *Nydya* into the language of invariable antecedence and succession. In such a sequence we do not enumerate the matter of the cloth, because, as the matter is the ground of the possible existence of the thing, the existence of the cloth, about which we are speaking, implies the existence of the matter. When we speak of an effect, we speak of an event, not a substance; and the event, of which we have to trace the chain of antecedents, is the appearance of a certain amount of matter in the form of cloth. The event which invariably precedes, and is invariably followed by, the appearance of cloth, is the suitable conjunction of threads. This, then, is the cause why cloth has made its appearance. That conjunction itself was immediately preceded by the operation of the loom upon the threads properly disposed. This operation, which always precedes the conjunction, and which, in regard to threads suitably disposed, is invariably followed by it, is the cause of the conjunction. The operation of the loom was consequent on the muscular exertions of the weaver, which invariably precede each movement of the loom. Again, the exertions of the weaver were consequent upon his desire

to possess cloth, and this desire itself was consequent upon other considerations, which we need not at present enquire further into. Thus we find that the different kinds of causes enumerated by Aristotle and the *Naiyáyikas*, may be resolved into similar sequences, in either of which the links differ among themselves only in respect of the distance of each link in the chain from the ultimate effect dependent upon it.

तच प्रत्यक्षज्ञानकरणं प्रत्यक्षम्। इन्द्रियार्थसन्निकर्षजन्यं ज्ञानं प्रत्यक्षम्। तद्द्विविधं निर्विकल्पकं सविकल्पकं च। तच निष्प्रकारकं ज्ञानं निर्विकल्पकम्। यथा इदं किञ्चित्। सप्रकारकं ज्ञानं सविकल्पकम्। यथा डित्थोऽयम्। ब्राह्मणोऽयम्। श्यामोऽयमिति।

46. "The cause of the knowledge [called] a perception is sensation. Sensation is the knowledge produced by the conjunction of an organ of sense and its object. It [a perception,] is of two kinds, where it does not pay regard to an alternative, and where it does. The knowledge which does not pay regard to an alternative, is that which involves no specification, as in the simple cognition that 'This is something [we know not what].' The knowledge which contem-

plates an alternative is that which includes a specification, as 'This is *Ḍittha*,' 'This is a *Bráhmaṇa*,' 'This is *black*.' "

a. The subject of the proposition 'This is something,' is what is technically termed a Logical Individual. In regard to the term 'individual,' Mr. Moberly remarks (—Logic, p. 11—): "The accurate etymological sense of the word Individuum is plainly That which has no qualities that we know of—*quod nihil habet dividui*—but is an object of sensation known to us only by its occupying a certain space at a given time. In this sense, however, it would be absurd to talk of an individual man or horse. If we know that a thing is a man or a horse, we know some of its qualities, and therefore it is no longer an individual to us." The term *nirvikalpaka* is applied not only to the knowledge of a thing 'which has no qualities that we know of,' but also to the knowledge of a generic character abstracted from that to which it might belong,—such as the generic nature of a water-jar (*ghaṭatwa*). Such knowledge, according to the Nyáya, does not belong to ordinary mortals, all whose knowledge is *sa-vikalpaka*. The vision of abstract entities (or Platonic ideas,) is reserved for the adepts of the *Yoga*.

b. The opinion that sensation is produced by the conjunction of the object and the sense, is borne out by modern enquiry, which, in some quarters, tends to go still further, and to regard with approval

what Sir W. Hamilton terms the shrewd observation of Democritus, that "all the senses are only modifications of touch." [Reid's collected works, p. 104.]

प्रत्यक्षज्ञानहेतुरिन्द्रियार्थसन्निकर्षः षड्विधः संयोगः संयुक्तसमवायः संयुक्तसमवेतसमवायः समवायः समवेतसमवायः विशेषणविशेष्यभावश्चेति। चक्षुषा घटप्रत्यक्षजनने संयोगः सन्निकर्षः। घटरूपप्रत्यक्षजनने संयुक्तसमवायः सन्निकर्षः चक्षुःसंयुक्ते घटे रूपस्य समवायात्। रूपत्वसामान्यप्रत्यक्षे संयुक्तसमवेतसमवायः सन्निकर्षः चक्षुःसंयुक्ते घटे रूपं समवेतं तच्च रूपत्वस्य समवायात्। श्रोत्रेण शब्दसाक्षात्कारे समवायः सन्निकर्षः कर्णविवरवर्त्याकाशस्य श्रोत्रत्वात् शब्दस्याकाशगुणत्वात् गुणगुणिनोश्च समवायात्। शब्दत्वसाक्षात्कारे समवेतसमवायः सन्निकर्षः श्रोत्रसमवेते शब्दे शब्दत्वस्य समवायात्। अभावप्रत्यक्षे विशेषणविशेष्यभावः सन्निकर्षः घटाभाववद्भूतलमित्यत्र चक्षुःसंयुक्ते भूतले घटाभावस्य विशेषणत्वात्। एवं सन्निकर्षषट्कजन्यं

ज्ञानं प्रत्यक्षम्। तत्करणमिन्द्रियं तस्मादिन्द्रियं प्रत्यक्षप्रमाणमिति सिद्धम्।

॥ इति प्रत्यक्षखण्डः ॥

47. "The mutual proximity of a sense and its object, which is the cause of perception, is of six kinds, (1) conjunction, (2) intimate union with that which is in conjunction, (3) inherence in that which is in conjunction, (4) inherence, (5) inherence in that which inheres, and (6) the relation between a distinctive circumstance and that which is thereby distinguished. For example, when a jar is perceived by the eye, there is [between the sense and the object,] the proximity of conjunction. In the perception of the colour of the jar, there is proximity through inherence in that which is in conjunction, because the colour inheres in the jar, which is in conjunction with the sense of vision. In the perception of the genus—the fact that this is a colour, there is the proximity of inherence in what inheres in that which is in conjunction, because the fact of being a colour inheres in the particular colour which inheres in the jar which is in conjunction with the sense of vision. In the perception of sound by the organ of hearing, the proximity is that of inherence, because the organ of hearing consists of the ether which resides in the cavity of the ear, and sound is a quality of ether, and

a quality inheres in that of which it is the quality. In the perception that it *is* a sound [in the case of any given sound of which we are cognizant,] the proximity is that of inherence in what inheres, because the fact of being a sound inheres in the sound which inheres in the organ of hearing. In the perception of non-existence, the proximity is through the relation between a distinctive circumstance and that which is thereby distinguished, because, in the case when [we perceive] 'The ground is possessed of the non-existence of a jar,' the [perceived] non-existence of a jar distinguishes the ground which is in conjunction with the organ of vision.

"Knowledge produced by these six kinds of proximity is perception. Its instrument is sense. Therefore we hold that an organ of sense is what gives us the right knowledge called Perception.

"So much for the chapter on Perception."

a. Instead of saying that we perceive the jar immediately, and its colour as inherent in it, modern philosophers hold that the eye takes cognizance of nothing but the colour, which is due to the reflected rays coming to the eye from the object; and from the sensation of a coloured form we infer that there is a jar, just as the sparrows inferred that there was a bunch of grapes in the picture of the Greek artist. Our interpretation of a sign may be right or wrong, but

all that is conveyed to the mind by vision is this sign—viz., the sensation of colour. Again, we do not now say that the sense of vision takes cognizance of the generic quality of colour as residing in any particular colour; for we hold that the term colour, generically, is nothing else than a contrivance of language for the purpose, partly, of economizing words, and, more particularly, of furnishing general propositions, without which we could not reason.

b. The hypothesis of ether in the ear has been rendered unnecessary by the observation, that the vibrations of the ear, occasioned by a sounding body, are communicated to the tympanum, or drum of the ear, which communicates with the auditory nerve, an offshoot of the brain, beyond which we can trace the phenomenon no further; the way in which the matter of the nerves communicates with the immaterial principle of consciousness being one of the mysteries which remain with the Creator.

c. We now come to the important sub-section of

INFERENCE.

अनुमितिकरणमनुमानम्। परामर्शजन्यं ज्ञानमनुमितिः। व्याप्तिविशिष्टपक्षधर्मताज्ञानं परामर्शः। यथा वह्निव्याप्यधूमवानयं पर्वत इति ज्ञानं

परामर्शः । तज्जन्यं पर्वतो वह्निमानिति ज्ञान-मनुमितिः । यत्र यत्र धूमस्तत्राग्निरिति साहचर्य-नियमो व्याप्तिः । व्याप्यस्य पर्वतादिवृत्तित्वं पक्ष-धर्मता ।

48. "An induction *(anumdna)* is the instrument of an inference *(anumiti)*. An inference is knowledge that results from syllogizing (*parâmarśa*). Syllogizing is the taking cognizance that the subject (*paksha*) possesses what is constantly accompanied [by something which is thus seen to belong to the subject]. For example,—the taking cognizance that 'This hill has smoke—which is constantly accompanied [at the point where it originates,] by fire'—is [an instance of] syllogizing [—i.e., of apprehending, in connection, an induction and an observation]. The knowledge resulting therefrom, viz., that 'The hill has fire [somewhere about it],' is an inference. 'The being constantly accompanied' (*vyâpti*) is such an invariableness of association as this — that wherever there is smoke there is fire. By the 'subject's *possession*' [of something that is constantly accompanied], we mean the fact that there *exists*—in a mountain, for instance—that which is constantly accompanied, [by something else]."

a. In order that we may be enabled to trace the

analogy which, disguised by differences arising from diversity in the point of view or in the form of expression adopted, must yet necessarily exist between any two processes of reasoning neither of which is unsound,—let us examine the terms in the foregoing passage, which we have rendered, as nearly as we could, by equivalents borrowed from the logic of Europe.

b. The first formal difference that requires to be noticed is the fact, that whilst the European logic employs a phraseology founded on classification, the *Nyáya* goes to work with the terms on which the classification is based. The former infers that kings are mortal because they belong to the class of men. The latter arrives at the same inference by means of the consideration that mortality is present wherever there is the human nature, and the human nature wherever there is that of a king.

c. In the logical datum 'This hill has smoke, which is constantly accompanied by fire,' there are wrapt up, in one, the major premiss, "wherever there is smoke there is fire," and the minor premiss, "this hill is smoking." The reason for preferring to regard these as two inseparable parts of a single statement appears to be this, that it is only when simultaneously present to the mind that the premises compel the inference. When they are stated separately, they are no other than the premises of an Aristotelian syllogism.

d. The term which we have rendered "the being constantly accompanied," viz., *vyápti*, means, literally, "pervadedness." In regard to the import of a proposition which the logic of Europe calls a Universal Affirmative, such as "All men are mortal," the *Naiyáyika* would say that there is pervadedness *(vyápti)* of humanity by mortality;—and he would state the proposition thus: "Where there is humanity there is mortality." In a universal affirmative the predicate or major term connotes the "pervader" *(vyápaka)* or constant accompanier of that, connoted by the subject or minor term, which is "pervaded" *(vyápya)* or constantly accompanied by it.

अनुमानं द्विविधं स्वार्थं परार्थं च। स्वार्थं स्वानुमितिहेतुः। तथाहि स्वयमेव भूयो दर्शनेन यत्र यत्र धूमस्तत्राग्निरिति महानसादौ व्याप्तिं गृहीत्वा पर्वतसमीपं गतस्तज्ञते चाग्नौ सन्दिहानः पर्वते धूमं पश्यन् व्याप्तिं स्मरति यत्र धूमस्तत्राग्निरिति। तदनन्तरं वह्निव्याप्यधूमवानयं पर्वत इति ज्ञानमुत्पद्यते। अयमेव लिङ्गपरामर्श इत्युच्यते। तस्मात् पर्वतो वह्निमानिति ज्ञानमनुमितिरुत्पद्यते। तदेतत् स्वार्थानुमानम्।

49. "An induction is of two kinds, [inasmuch as it may be employed] for oneself, and for another. That which is for oneself is the cause of a private conclusion [in one's own mind]. For example, having repeatedly and personally observed, in the case of culinary hearths and the like, that where there is smoke there is fire, having gathered the invariable attendedness [of smoke by fire], having gone near a mountain, and being doubtful as to whether there is fire in it, having seen smoke on the mountain, a man recollects the invariable attendedness, viz., 'where there is smoke there is fire.' Thereupon the knowledge arises that 'this mountain has smoke, which is constantly accompanied by fire.' This is called the 'pondering of a sign' *(linga-parámarśa)*. Thence results the knowledge that 'the mountain is fiery,' which is the conclusion *(anumiti)*. This is the process of inference for oneself."

यत् तु स्वयं धूमादग्निमनुमाय परप्रतिपत्त्यर्थं पञ्चावयववाक्यं प्रयुङ्क्ते तत् परार्थानुमानम्। यथा पर्वतो वह्निमान्। धूमवत्त्वात्। यो यो धूमवान् स वह्निमान् यथा महानसः। तथा चायम्। तस्मात् तथेति। अनेन प्रतिपादिताल्लिङ्गात् परोऽप्यग्निं प्रतिपद्यते।

50. "But, after having, for oneself, inferred fire from smoke, when one makes use of the five-membered form of exposition, with a view to the information of another, then is the process one of inference for the sake of another. For example: (1) The mountain has fire in it; (2) because it has smoke; (3) whatever has smoke has fire, as a culinary hearth; (4) and so this has; (5) therefore it is as aforesaid. By this [exposition], in consequence of the sign [or token] here rendered, the other also admits that there is fire."

प्रतिज्ञाहेतूदाहरणोपनयनिगमनानि पञ्चावयवाः। पर्वतो वह्निमानिति प्रतिज्ञा। धूमवत्त्वादिति हेतुः। यो यो धूमवान् स वह्निमानित्युदाहरणम्। तथा चायमित्युपनयः। तस्मात् तथेति निगमनम्॥

51. "The five members [of this exposition are severally named]: (1) the proposition (*pratijñá*), (2) the reason (*hetu*), (3) the example (*udáharaṇa*), (4) the application (*upanaya*), and (5) the conclusion (*nigamana*). 'The mountain is fiery' is the proposition; 'because of its being smoky' is the reason; 'whatever is smoky is fiery' is [the general proposition or principle founded on] the example [of culinary

hearths and the like]; 'and so this [mountain] is' is the [syllogistic] application; 'therefore it [the mountain,] is fiery' is the conclusion."

a. The five-membered argumentative exposition has been the object, sometimes of undeserved censure, and sometimes of commendation equally undeserved. When it is commended, at the expense of the Aristotelian syllogism, on the allegation (see a quotation in Sir G. C. Haughton's *Pródromus*, p. 215,) "that it exhibits a more natural mode of reasoning than is compatible with the compressed limits of the syllogism, and that its conclusion is as convincing as that of the syllogism," the commendation is based simply on a misconception of the syllogism thus disparaged. On the other hand, when it is censured as "a rude form of the syllogism," the censure is misapplied, because what corresponds to the syllogism is the two-membered expression, which, we have already seen, [§ 48, *c*,] comprises neither more nor less than the syllogism does; whereas the form now under consideration is proposed as the most convenient for communicating our convictions to others. Being a matter of exposition, it is therefore a question of Rhetoric whether the form be, or be not, the most convenient in which to arrange our proposition, our proofs, and our illustrations. The five-membered expression, so far as its arrangement is concerned, is a summary of *Kaṇáda's* views in

regard to Rhetoric, "an offshoot from Logic," (see Whately's Elements of Rhetoric, page 6,) and to which, after "the *ascertainment* of the truth by investigation," belongs "the *establishment* of it to the satisfaction of *another*." Disregarding what is called rhetorical artifice, which, in his system, would have been out of place, as it would have been out of place in Euclid's Elements of Geometry, *Kanáda* directs his rhetorician to commence, as Euclid does, by stating the proposition to be proved. The reason is next to be alleged, and then instances are to be cited in order to show that the reason is sufficient to establish the fact in regard to all cases of a certain given character. The auditor is then to be reminded that there is no dispute that the case in question is of the given character, and the oration winds up with the reintroduction of the original proposition, in the new character of an established conclusion, just as Euclid's argument winds up by reintroducing the triumphant proposition with a flourish of trumpets in the shape of a "Quod erat demonstrandum."

b. Thus, rhetorically considered, the five-membered expression is a very suitable framework for a straight-forward argumentative speech, making no appeal to the passions, and not hesitating to table, without exordium, the proposition which it proceeds to establish.

c. Logically considered, the five-membered expres-

sion is a combination of the Inductive with the Deductive syllogism. The instances which led the speaker to an inductive generalization are cited [in the shape of some one or other example, followed by a suggestive "&c.,"] for the satisfaction of the auditor, in the third division of the rhetorical address—from which circumstance it has happened that those who suppose the intended function of the model oration and of the Aristotelic syllogism to be identical, have come, either to regard the oration as an illogical monstrosity, or else to fancy that it is a great improvement upon the syllogism. The former misconception is that of those who, like Ritter, ("History of Ancient Philosophy," Vol. 4. p. 365,) were familiarly conversant with the logic of the schools. The other misconception was to be looked for in the case of those whose notions of the logic of the schools were derived from Locke's Essay and Campbell's Rhetoric.

d. Thus it is quite unfair to say, with Ritter, ("History of Philosophy," Vol. IV. p. 365,) that two of the five members of *Kanáda's* argument "are manifestly superfluous, while, by the introduction of an example in the third, the universality of the conclusion is vitiated;"—for, as we have shown, the citation of the example is designed, as a matter of rhetorical convenience, to bring to the recollection of the hearer examples in regard to which all parties are unanimous, and which are such as should

constrain him to admit the universality of the principle from which the conclusion follows.

स्वार्थानुमितिपरार्थानुमित्योर्लिङ्गपरामर्श एव करणं तल्लिङ्गपरामर्शोऽनुमानम्।

52. "The instrument [in the making] of an inference (*anumiti*), whether for oneself, or for another, is simply the consideration of a 'sign' (*linga*); therefore an induction (*anumána*) [which was previously stated to be the instrument of an inference,] is [just] this consideration of a sign."

a. We have next, then, to enquire what several kinds of *signs* there are.

लिङ्गं त्रिविधमन्वयव्यतिरेकि केवलान्वयि केवलव्यतिरेकि चेति। अन्वयेन व्यतिरेकेण च व्याप्तिमल्लिङ्गमन्वयव्यतिरेकि यथा वह्नौ साध्ये धूमवत्त्वम्। यत्र धूमस्तत्राग्निर्यथा महानस इत्यन्वयव्याप्तिः। यत्र वह्निर्नास्ति तत्र धूमोऽपि नास्ति यथा महाह्रद इति व्यतिरेकव्याप्तिः। अन्वयमात्रव्याप्तिकं केवलान्वयि यथा घटोऽभिधेयः प्रमेयत्वात् पटवत्। अत्र प्रमेयत्वाभिधेयत्वयोर्व्यतिरेकव्याप्तिर्नास्ति सर्वस्य प्रमेयत्वादभिधेयत्वाच्च। व्यति-

रेकमात्रव्याप्तिकं केवलव्यतिरेकि यथा पृथिवी-
नरेभ्यो भिद्यते। गन्धवत्त्वात्। यदितरेभ्यो न
भिद्यते न तद्गन्धवद्यथा जलम्। न चेयं तथा।
तस्मान्न तथेति। अत्र यद्गन्धवत् तदितरभिन्नमि-
त्यन्वयदृष्टान्तो नास्ति पृथिवीमात्रस्य पक्षत्वात्।

53. "A Sign [or characteristic token] (*linga*) is of three sorts: (1) that which is [a token in virtue of its being constantly] accompanied [by what it betokens], and absent [when what it would betoken is absent] (*anwayavyatireki*); (2) that which is [a token in virtue of its being constantly] accompanied only [and never absent through the absence of what it should betoken—the thing betokened being in this case one everywhere present—] (*kevaldnwayi*); and (3) that which is [a token in virtue of its being invariably] absent only [in the case of everything that could be cited in addition to the subject of the proposition itself] (*kevalavyatireki*). [To illustrate these three in order,]—that which is accompanied and absent (*anwayavyatireki*) is that which is pervaded by [—or, in other words, of which there is invariably predicable —] accompaniment (*anwaya*) [on the part of what it betokens], and absence (*vyatireka*) [on its own part, when what it might betoken is absent], as the possession of smoke when fire is what is to be established. [For example,] 'Where there is smoke there is fire, as on

the culinary hearth, [where the fire is supposed never to be extinguished:]'—here there is 'pervadedness by attendance' (*anwayavyápti*) [—i. e., it is predicable of the token, smoke, that it is attended by fire which it betokens]. 'Where fire is not, there smoke is not, as in a great lake, [where it is taken for granted that fire cannot be:]'—here there is 'pervadedness by absence' (*vyatirekavyápti*)—[i. e., it is predicable of smoke, as a token, that it will be absent where what it would have betokened is absent]. [In the second place,] that [sign] which is accompanied only (*kevalánwayi*) is that which is 'pervaded by [—or, in other words, of which there is invariably predicable—] accompaniment only' [on the part of what it betokens]. For example, 'A jar is namable because it is cognizable, as a web is:'—here there is no [case of] 'pervadedness by absence,' in cognizability and namableness, because *everything* [that we can be conversant about,] is both cognizable and namable. [Thirdly, and lastly,] that [sign] which is absent only (*kevalavyatireki*) is that which is 'pervaded by [—or, in other words, of which there is invariably predicable—] absence only,' [on its part, in the case of whatever could be cited, as an example, in addition to the subject of the proposition itself]. For example:

(1) 'Earth is different from these others [of the elements]:

(2) Because it is odorous:—

(3) What is *not* different from these others is not odorous,—as water, [for example, is inodorous] :—

(4) But this [earth] is not so [—i. e., is not inodorous] :—

(5) Therefore it is not such [as the other elements, but different from these others].'

Here [we are obliged to employ, in the 3d member, a universal negative, because] there is no analogous example [to cite in confirmation,] in the case of [the universal affirmative] 'What possesses odour is different from the others,' seeing that Earth alone can be the subject [of a proposition in which *odour* —see § 11—is affirmatively predicated].

सन्दिग्धसाध्यवान् पक्षो यथा धूमवत्त्वे हेतौ पर्वतः। निश्चितसाध्यवान् सपक्षो यथा तत्रैव महानसः। निश्चितसाध्याभाववान् विपक्षो यथा तत्रैव महाह्रदः।

54. "That, whose possession of what is to be established is doubted, is called the subject (*paksha*); as the mountain, when the fact of its smoking is [assigned as] the reason [for inferring the presence of fire]. That which certainly possesses the property in question is called an instance on the same side (*sapaksha*); as the culinary hearth, in the same example. That which is certainly devoid of the pro-

perty in question, is called an instance on the opposite side (*vipaksha*); as the great lake, in the same example."

a. The *sapaksha* corresponds to Bacon's *instantiæ convenientes* "quæ in eadem natura conveniunt, per materias licet dissimilimas." The *vipaksha* corresponds to the instantiæ "quæ natura data privantur." Novum Organum, Lib. 2, Aph. XI and XII.

b. We now come to the sub-section of

FALLACIES.

सव्यभिचारविरुद्धसत्प्रतिपक्षासिद्धबाधिताः पञ्च हेत्वाभासाः ।

55. "The five that present the semblance of a reason (*hetwábhása*) are: (1) that which goes astray, (2) the reverse [of what it ought to be], (3) that which is counterbalanced, (4) the unreal, and (5) the futile."

सव्यभिचारोऽनैकान्तिकः । स त्रिविधः साधारणासाधारणानुपसंहारिभेदात् । तत्र साध्याभाववद्वृत्तिः साधारणोऽनैकान्तिको यथा पर्वतो

वह्निमान् प्रमेयत्वादिति प्रमेयत्वस्य वह्न्यभाववति ह्रदे विद्यमानत्वात्।

56. "That [alleged reason] which goes astray (*savyabhichára*), is that which has not just the one [requisite] conclusion. It is of three kinds; (1) What is common [to others in such a way that it would prove too much] (*sádhdraṇa*); (2) what is common to none [besides the individual, and therefore proves nothing] (*asádháraṇa*); and (3) the non-exclusive (*anupasaṁhári*). Among these, that [alleged reason among the three] having not just the one [requisite] conclusion, is [unduly] 'common', which is present in that in which there is the *absence* of what is to be proved. For example, 'The mountain is fiery, because it [the mountain,] is cognizable': [—here the reason would be liable to this objection] because cognizability belongs [equally] to a lake, which has *no* fire in it."

सर्वसपक्षविपक्षव्यावृत्तोऽसाधारणो यथा शब्दो नित्यः शब्दत्वादिति। शब्दत्वं सर्वेभ्यो नित्येभ्योऽनित्येभ्यश्च व्यावृत्तं शब्दमावर्त्तति।

57. "That [pretended reason] which is excluded [alike] from all instances, whether similar or dissimilar, is one common to none [besides the individual]

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(asádháraṇa). 'As, 'Sound is eternal, for it has the nature of sound.' Now the nature of sound resides in sound alone, and is excluded from all else, whether eternal or uneternal."

अन्वयव्यतिरेकदृष्टान्तरहितोऽनुपसंहारी यथा सर्वमनित्यं प्रमेयत्वादिति । अत्र सर्वस्यापि पक्षत्वादृष्टान्तो नास्ति ।

58. "That [pretended argument] which is destitute of an example whether of association or of dissociation [between itself and anything else,] is non-exclusive *(anupasaṁhári)*. For example, 'Every thing is uneternal, because it is capable of proof;'—here there is *no* example [to cite—of *any* sort—] because 'every thing' [leaving nothing over,] is the subject."

साध्याभावव्याप्यो हेतुर्विरुद्धो यथा शब्दो नित्यः कृतकत्वादिति । कृतकत्वं हि नित्यत्वाभावेनानित्यत्वेन व्याप्तम् ।

59. "A reason the reverse [of what it ought to be] *(viruddha)*, is that which is constantly accompanied by the absence of what is to be proved. For example—, 'Sound is eternal because it is created,'—[we should reject this argument at once,] because the fact

of having been created implies non-eternity— the *negation* of being eternal."

a. Whether sound be something created or uncreated is a disputed point among Indian philosophers, [—see the Mímánsá Aphorisms, B. I., ch. 1, Aph. 6—23,]—the grammarians, of course, taking the side in the dispute which tends most to exalt the object-matter of their own science. Mr. Babbage assigns to sound an eternity of a different kind from that contemplated by the Hindú sages, for he argues, that the undulations, on which sound depends, being once produced, can never be absolutely annihilated; though, through excessive diffusion, the force becomes so diminished that our dull organs are not affected by it. Were it not for this, we might still hear the echos of Cicero's eloquence haunting the Roman forum.

साध्याभावसाधकं हेत्वन्तरं यस्य स सत्प्रतिपक्षो यथा शब्दो नित्यः श्रावणत्वात् शब्दत्ववदिति। शब्दोऽनित्यः कार्यत्वाद्घटवदिति।

60. "A counterbalanced reason (*satpratipaksha*) is that along with which there exists another reason, which establishes [equally well] the *non*-existence of what is to be proved. For example 'Sound is eternal, because it is audible, as the nature of sound is' [by both parties admitted to be],' [it still might be

argued, with equal force on the other side, that] 'Sound is *non*-eternal, because it is a product, as a jar is.'"

असिद्धस्त्रिविध आश्रयासिद्धस्वरूपासिद्धो व्याप्यत्वासिद्धश्चेति ।

61. "An unreal reason is threefold: (1) that the [alleged] locality of which is unreal (*áśrayásiddha*); (2) that where the nature [alleged as belonging to the subject] is not a fact (*swarúpásiddha*); and (3) that where the being constantly accompanied [—though alleged—] is not a fact (*vyápyatwásiddha*)."

आश्रयासिद्धो यथा गगनारविन्दं सुरभ्यरविन्दत्वात् सरोजारविन्दवत् । अत्र गगनारविन्दमाश्रयः स च नास्त्येव ।

62. "[As an example of] that the [pretended] locality of which is unreal [suppose that one argues]; 'The sky-lotus is fragrant, because the nature of a lotus resides in it, as in the lotuses of the lake'—here the sky-lotus is [alleged as] the locality [of the nature of a lotus], and in fact it [the sky-lotus,] does not exist *at all*."

Mr. Mill, (Logic, vol. I, p. 200), treating of the

nature of Definition, has the following remarks, which noticeably illustrate the case in hand.

He says:—

"Let this, for instance, be our definition; A dragon is a serpent breathing flame. This proposition, considered only as a definition, is indisputably correct. A dragon *is* a serpent breathing flame: the word *means* that. The tacit assumption, indeed, (if there were any such understood assertion,) of the existence of an object with properties corresponding to the definition, would, in the present instance, be false. Out of this definition we may carve the premises of the following syllogism:—

'A dragon is a thing which breathes flame.
But a dragon is a serpent:
From which the conclusion is,

Therefore some serpent or serpents breathe flame:'—

"An unexceptionable syllogism, in the first mode of the third figure, in which both premises are true, and yet the conclusion false; which every logician knows to be an absurdity. The conclusion being false, and the syllogism correct, the premises cannot be true. But the premises, considered as parts of a definition, are true: there is no possibility of controverting them. Therefore, the premises considered as parts of a definition, cannot be the real ones. The real premises must be:

'A dragon is a *really existing* thing which breathes flame:—

'A dragon is a really existing serpent:

'Which implied premises being false, the falsity of the conclusion presents no absurdity'."

स्वरूपासिद्धो यथा शब्दो गुणश्चाक्षुषत्वात्। अत्र चाक्षुषत्वं शब्दे नास्ति शब्दस्य श्रावणत्वात्।

63. "As [an example of] an argument where the nature does not really exist in the subject, [suppose one were to argue,] 'Sound is a quality, because it is visible': here [every one would perceive, at once, that] visibility does not reside in sound, for sound is recognised by the hearing [not by vision]."

सोपाधिको हेतुर्व्याप्यत्वासिद्धः। साध्यव्यापकत्वे सति साधनाव्यापक उपाधिः।

64. "The reason, when there is some [indispensable] 'condition,' is not really 'constantly accompanied.' [See § 48, *d*.] A 'condition' (*upádhi*) is that which, whilst constantly accompanying what is to be established, is *not* the constant accompanier of the argument [tendered in proof]."

a. What follows is intended to elucidate the terms of this definition.

साध्यसमानाधिकरणात्यन्ताभावाप्रतियोगित्वं साध्यव्यापकत्वम्। साधनवन्निष्ठात्यन्ताभावप्रतियोगित्वं साधनाव्यापकत्वम्।

65. "To be the constant accompanier of what is to be established (*sádhya-vyápakatwa*) consists in the not being the counter-entity (*apratiyogitwa*) of any absolute non-existence (*atyantábhávа*) having the same subject of inhesion (*samánádhikaraṇa*) as that which is to be established. To be not the constant accompanier of the argument (*sádhanávyápakatwa*) consists in the being the counter-entity (*pratiyogitwa*) of some absolute non-existence [not impossibly] resident in that which possesses the [character tendered as an] argument."

a. The *Naiyáyikas* glory in this bewildering style of elucidation. In the present instance the question was this: "In what consists such a constant accompanying as that of wet fuel in respect of the production of smoke?" In order that the answer might be sufficiently adorned with obscurity, the term Non-existence, the great ally in the mystification of language, is called into council; and it is determined that, so far as concerns the production of smoke, we may assume the non-existence of everything that is *not* required for its production. For example, jars are not indispensable, nor elephants, nor astro-

homical calculations, nor an indefinite number of other things, the non-existence of all of which is quite compatible with the production of smoke. The counter-entity (*pratiyogi*) in regard to any particular non-existence being the thing itself, and the counter-entities of all the non-existences compatible with the production of smoke being all those things that are *not* indispensable for its production, it follows that the characteristic of the indispensable is its being something different from all these, or, as our author expresses it, its *not* being the counter-entity to any of these non-existences. Such, in the case of smoke, is the part performed by wet fuel, which is not the counter-entity to the non-existence of jars, &c., but is the counter-entity to the non-existence of wet fuel itself, a non-existence which he holds is *not* compatible with the production of smoke.

b. The second definition, as will be readily seen, is the opposite of this. He proceeds to exemplify the case.

पर्वतो धूमवान् वह्निमत्त्वादित्यत्र आर्द्रेन्धनसंयोग उपाधिः। तथाहि यत्र धूमस्तत्रार्द्रेन्धनसंयोग इति साध्यव्यापकता। यत्र वह्निस्तत्रार्द्रेन्धनसंयोगो नास्ति अयोगोलके आर्द्रेन्धनसंयोगाभावादिति साधनाव्यापकता। एवं साध्यव्यापकत्वे

सति साधनाव्यापकत्वादार्द्रेन्धनसंयोग उपाधिः । सोपाधिकत्वाद्वह्निमत्त्वं व्याप्यत्वासिद्धम् ।

66. "[Suppose it to be argued that,] 'The mountain is smoky, because it is fiery': in this case the contact of wet fuel is a 'condition.' To explain:—'wherever there is smoke, there there is the conjunction of wet fuel': [this we assume to be not disputed,—and] thus there is a constant accompanying of [or attendance upon,] what is to be established *(sádhyavyápakatá)*. But where there is fire, there is not [necessarily] the conjunction of wet fuel; for there is no conjunction of wet fuel in the case of an [ignited] iron ball, so that there is not a constant accompanying of [or attendance upon,] the proof *(sádhanavyápakatá)*. Thus, the conjunction of wet fuel is a 'condition,' since it is something [see § 64,] 'which, whilst constantly accompanying what is to be established, is *not* the constant accompanier of the argument [tendered in proof].' Fieriness is 'not really constantly accompanied' [by smoke], because there is a 'condition' attached."

a. An argument proposed in the form, "The mountain is fiery; therefore it must smoke," is called an Enthymeme, because, only one of the premises being expressed, the other is regarded as remaining in the mind *(en thymo)* of the reasoner. In the case of a fallacy propounded as an Enthymeme,

[see Whately's Logic, Book 3, § 1,] it is impossible to tell whether the fallacy is in the form, or in the matter. For example, the suppressed premiss, in the present case, may be either, "Some things when ignited are smoky," or, "All things when ignited are smoky." On the former alternative, the fallacy is the formal one of undistributed middle; on the other alternative, the major premiss is false, as proved in the text by the instance of the ignited iron ball. The *Nyáya*, which takes no notice of formal fallacies, assumes that the suppressed premiss is in the form in which, if its truth were conceded, it would really establish the point in question: for example—

"Whatever is ignited smokes;
"The hill is ignited;
"Therefore it smokes."

The instance of the ignited iron ball enables us merely to deny the major premiss of this syllogism. It is not unfrequently useful, however, to know not merely that something is wrong, but to know how far it is wrong, or what amount of correction would make it right. With this view the case may be regarded as falling under the head of the procedure "a dicto *secundum quid* ad dictum simpliciter," that is to say, "from an assertion *with a qualifying condition*, to the same assertion without the qualification." Thus, if we concede to the *Naiyáyika* his

theory of smoke, we may say with him that "Whatever is ignited, provided there is the conjunction of wet fuel, smokes"; from which, however, we cannot go on to infer that the hill, being *simply ignited*, smokes. There the reason (fieriness,) is "secundum quid" (*sopádhika*) in the major premiss, and the fallacy consists in the dropping of the "quid" (*upádhi*) in the minor.

यस्य साध्याभावः प्रमाणान्तरेण निश्चितः स बाधितः यथा वह्निरनुष्णो द्रव्यत्वादिति । अत्रानुष्णत्वं साध्यं तदभाव उष्णत्वं स्पार्शनप्रत्यक्षेण गृह्यते इति बाधितत्वम् ।

॥ व्याख्यातमनुमानम् ॥

67. "An argument is futile (*bádhita*) when the absence of what it seeks to prove is established for certain by another proof. For example, [it may be argued that,] 'Fire is cold, because it is a substance.' Here coldness is sought to be established; and its absence, viz., warmth, is apprehended by the sense of touch; [and the direct apprehensions of Sense are of greater authority than any inference which contradicts them]. Hence the argument is futile."

"Thus has Inference been expounded."

a. Our text-book now proceeds to treat of

COMPARISON.

उपमितिकरणमुपमानम्। सञ्ज्ञासञ्ज्ञिसम्बन्धज्ञानमुपमितिः। तत्करणं साट्दृश्यज्ञानम्। अतिदेशवाक्यार्थस्मरणमवान्तरव्यापारः। तथाहि गवयशब्दवाच्यमजानन् कुतश्चिदारण्यकपुरुषाद्गोसट्दृशो गवय इति श्रुत्वा वनं गतो वाक्यार्थं स्मरन् गोसट्दृशपिण्डं पश्यति तदनन्तरमसौ गवयशब्दवाच्य इत्युपमितिरुत्पद्यते।

॥ व्याख्यातमुपमानम् ॥

68. "The knowledge of a similarity (*upamána*) is the instrument [in the production] of an inference from similarity (*upamiti*). This particular inference consists in the knowledge of the relation of a name to something so named. Its instrument is the knowledge of a likeness. The operation involved [in the employment of this instrument for the attainment of knowledge,] is the recollection of the purport of a statement of resemblance. For example; a person, not knowing what is meant by the word

gavaya (bos gavaeus), having heard from some inhabitant of the forest as follows: 'A *gavaya* is like a cow,'—having gone to the forest, remembering the purport of what he has been told, sees a body like that of a cow. Thereupon this inference from similarity arises [in his mind], that 'this is what is meant by the word *gavaya*.'"

"Thus has the knowledge of a similarity been expounded."

a. Our text-book now proceeds to treat of

TESTIMONY.

आप्तवाक्यं शब्दः । आप्तस्तु यथार्थवक्ता । वाक्यं पदसमूहो यथा गामानयेति । शक्तं पदम् । अस्मात् पदादयमर्थो बोद्धव्य इति ईश्वरेच्छा सङ्केतः शक्तिः ।

69. "A word [or right assertion] is the speech of one worthy [of confidence]. But one worthy is a speaker of the truth. A speech [or sentence] is a collection of grammatically inflected terms; as, for example, 'Bring the cow.' A grammatically inflected term (*pada*) is that which is possessed of power [to convey a meaning]. Such power consists

in its being the will—the appointment—of the Lord, that 'Such and such a meaning is to be understood from such and such a grammatically inflected term.'"

आकाङ्क्षा योग्यता सन्निधिश्च वाक्यार्थज्ञान-हेतुः ।

70. "The cause of the knowledge of the sense of a sentence [without which a sentence would else be unintelligible,] is expectancy, compatibility, and juxtaposition."

a. These three requisities are explained as follows:—

पदस्य पदान्तरव्यतिरेकप्रयुक्तान्वयाननुभावकत्वमाकाङ्क्षा । अर्थाबाधो योग्यता । पदानामविलम्बेनोच्चारणं सन्निधिः ।

71. "Expectancy *(ákánkshá)* means a word's incapacity to convey a complete meaning, this being occasioned by the absence of another word [which, when it comes as expected, will complete the construction and the sense]. Compatibility *(yogyatá)* consists in [a word's] not having a meaning incompatible [with that of other words in the sentence]. Juxtaposition *(sannidhi)* consists in the enuncia-

tion of the words without a [long] pause [between them]."

a. Examples of deficiency in each of these respects here follow:—

आकाङ्क्षादिरहितं वाक्यमप्रमाणं यथा गौरश्वः पुरुषो हस्तीति न प्रमाणमाकाङ्क्षाविरहात्।

72. "A collection of words devoid of expectancy &c., is no instrument of right knowledge; for example, 'Cow, horse, man, elephant,' gives no information, from the absence of expectancy; [the words having no reference one to another, and not looking out for one another]."

a. The word *ákánkshá*, the import of which here is interdependence, literally means 'desiring, or looking for.' In the sentence "*Devadatto gráman gachchhati*," "Devadatta goes to the village," the first word is in the nominative case, a form which, as it belongs to an agent, looks out for another word denoting action. The word denoting action, the third in the sentence, looks for some object of the action. This it finds in the second word, which, being in the objective case, was looking out for the verb. Each word, in such a sentence, finds every other kind of word which it looks out for. This, however, is not sufficient to ensure a sentence's being faultless, as our text-book goes on to show.

अग्निना सिञ्चेदिति न प्रमाणं योग्यताविरहात् ।

73. "The expression 'He should irrigate with fire' is no instrument of right knowledge, by reason of the absence of compatibility [between fire and irrigation]."

प्रहरे प्रहरेऽसन्नोच्चारितानि गामानयेत्यादिपदानि न प्रमाणं सान्निध्याभावात् ।

74. The words, for example, 'Bring—the—cow', not pronounced close together, but with an interval of some three hours between each, constitute no instrument of right knowledge, from the absence of [the requisite closeness of] juxtaposition."

वाक्यं द्विविधं वैदिकं लौकिकं च । वैदिकमीश्वरोक्तत्वात् सर्वमेव प्रमाणम् । लौकिकं त्वाप्तोक्तं प्रमाणम् । अन्यदप्रमाणम् ।

75. "Speech is of two kinds, sacred (*vaidika*) and secular (*laukika*). The sacred, being uttered by the Lord, is all authoritative; but the secular, if uttered by one who deserves confidence, is authoritative: other than this is not authoritative."

a. Who "deserves confidence" is a question which our text-book does not enter upon.

वाक्यार्थज्ञानं शाब्दज्ञानं तत्करणं शब्दः । इति यथार्थानुभवो निरूपितः ।

76. "The knowledge of the meaning of a speech is verbal knowledge; its instrument is speech.

"Thus has been explained what constitutes correct knowledge."

अयथार्थानुभवस्त्रिविधः संशयविपर्ययतर्कभेदात् ।

77. "Incorrect knowledge is of three sorts, according to the division of doubt, mistake, and [such opinion as is liable to] *reductio ad absurdum*."

एकस्मिन् धर्मिणि विरुद्धनानाधर्मवैशिष्ट्यावगाहिज्ञानं संशयो यथा स्थाणुर्वा पुरुषो वेति ।

78. "In regard to one thing possessing a certain nature, Thought, plunging itself into specialization by various opposite natures, is Doubt (*saṁśaya*). For example, 'a post, or a man.'"

a. The object is supposed to be seen from a dis-

tance, or when there is little light; and, whilst we have not made up our mind that it is *not* a post, or that it is *not* a man, we continue to associate both natures with it, and this constitutes doubt. Thought is mere thought when one is thinking of nothing in particular. When we take cognizance of any particular thing, Thought is regarded as becoming a special thought by immersing itself in the thing, and receiving *information* by taking the form of it. All the forms, or natures, that really belong to the thing, may co-operate harmoniously in producing information;—e. g., the nature of a substance, and of an animal, &c., in the case of a man. But the natures of a man and of a post cannot co-operate in the same case of information. They conflict, and in this conflict consists the state of Doubt.

मिथ्याज्ञानं विपर्ययो यथा शुक्तावि्दं रजतमिति।

79. "Apprehending falsely is mistake (*viparyaya*). For example, in the case of mother-o'-pearl,—that this is silver."

व्याप्यारोपेण व्यापकारोपस्तर्को यथा यदि वह्निर्न स्यात् तर्हि धूमोऽपि न स्यादिति।

80. "*Reductio ad absurdum* (*tarka*) is a self-willed

notion in regard to the constant accompanier, [which notion it is absurdly attempted to justify] by a self-willed notion in regard to what is constantly accompanied thereby. For example, [in dealing with an illogical person who denies that there is fire in the hill, we may have to urge upon him the consideration that,] 'If there were not fire, there would not be smoke'; [whereupon the illogical person, so long as he persists in the form of error under consideration, will seek to deny the smoke, in spite of the testimony of his senses, rather than admit the fire which constantly accompanies it]."

a. Thus the term *tarka*, (usually rendered, as here, *reductio ad absurdum*,) when employed to designate, not the confutation, but one of the three forms, of error, denotes the state, of mind which is liable to be thus shown to involve an absurdity.

b. On the three kinds of wrong notion it may be remarked that the first, viz., doubt, ceases when one of the conflicting natures excludes the rest; the result, however, may still be a wrong notion of the second kind, or a mistake; for our doubt ceases when we become sure that a given object is a man, though in reality it be a post. Mistake ceases when, by more careful examination, or by other means, an apprehension of the real nature of the thing displaces the erroneous apprehension. The third kind of error is that where no further examination is required, the want of logical perspicacity being all that pre-

vents the individual from perceiving that the opinion which he entertains is inconsistent with admitted facts.

स्मृतिरपि द्विधा यथार्थायथार्था च। प्रमाजन्या यथार्था। अप्रमाजन्यायथार्था।

81. "Memory also [like knowledge in general,] is of two kinds, correct and incorrect. Correct memory is that which arises from correct knowledge. Incorrect memory is that which arises from incorrect knowledge."

a. Our text-book, of which a considerable portion has been occupied with the quality of Intellect, now goes on to the remaining qualities, pleasure, pain, &c.

सर्वेषामनुकूलवेदनीयं सुखम्। प्रतिकूलवेदनीयं दुःखम्।

82. "What all perceive to be agreeable, is pleasure *(sukha)*; what appears disagreeable, is pain *(du'kha)*."

इच्छा कामः। क्रोधो द्वेषः। कृतिः प्रयत्नः।

83. "By desire *(ichchhd)* we mean wishing; by aversion (*dwesha*), disliking; by effort *(prayatna)*, action."

विहितकर्मजन्यो धर्मः । निषिद्धकर्मजन्यस्त्व-धर्मः ।

84. "Merit (*dharma*) is what results from enjoined acts; but demerit *(adharma)*, what results from forbidden acts."

बुद्ध्यादयो ऽष्टावात्ममात्रविशेषगुणाः ।

85. "The eight [qualities], beginning with understanding, (§ 4,) are distinctive qualities of Soul alone."

बुद्धीच्छाप्रयत्ना द्विविधा नित्या अनित्याश्च । नित्या ईश्वरस्य । अनित्या जीवस्य ।

86. "Understanding, desire, and effort, are of two kinds, eternal and transient; eternal in the 'Lord,' transient in mortals."

संस्कारस्त्रिविधो वेगो भावना स्थितिस्थापक-श्चेति । वेगः पृथिव्यादिचतुष्टयमनोवृत्तिः । अ-नुभवजन्या स्मृतिहेतुर्भावनाऽऽत्ममात्रवृत्तिः । अन्यथाकृतस्य पुनस्तादवस्थ्यापादकः स्थितिस्था-पकः कटादिपृथिवीवृत्तिः । इति गुणाः ।

J

87. "A quality self-reproductive (*saṅskára*) is of three kinds, [inasmuch as it may appear in the shape of either] momentum, imagination, or elasticity. Momentum (*vega*) resides in the four beginning with Earth, (see § 3,) and in Mind. Imagination *(bhávaná)*, resulting from notion, and the cause of memory, resides only in the Soul. Elasticity (*sthitisthápaka*) is that which restores to its former position what had been altered. It resides in [cane-woven] mats and the like which are formed of the earthy element.

"So much for the Qualities."

a. Thus a *saṅskára* is that which, acting as a cause, reproduces itself as an effect.

b. We now come to the third category, that of Action.

Chap. IV.—Action.

चलनात्मकं कर्म ।

"Action consists in motion."

ऊर्ध्वदेशसंयोगहेतुरुत्क्षेपणम् । अधोदेशसंयोग-हेतुरपक्षेपणम् । शरीरस्य सन्निकृष्टसंयोगहेतुरा-

कुञ्चनम्। विप्रकृष्टसंयोगहेतुः प्रसारणम्। अन्यत् सर्वं गमनम्। पृथिव्यादिचतुष्टयमनोमाचवृत्ति।

88. "Casting upward (*utkshepaṇa*) is the cause of conjunction with a higher place. Casting downward (*apakshepaṇa*) is the cause of contact with a lower place. Contraction (*ákunchana*) is the cause of the body's conjunction with [only] what is near. Dilatation (*prasáraṇa*) is the cause of conjunction with what is distant. Going (*gamana*) is [the name of] every other [variety]. Action resides only in the four beginning with Earth, (§ 3,) and in Mind."

a. We now come to the fourth Category, that of Community.

Chap. V.—Community.

नित्यमेकमनेकानुगतं सामान्यं द्रव्यगुणकर्मवृत्ति। तद्द्विविधं परापरभेदात्। परं सत्ता। अपरं जातिर्द्रव्यत्वादिः।

89. "Community (*sámánya*) is eternal, one, belonging to more than one, residing in Substance, Quality, and Action. It is of two kinds, higher and

lower. The highest [degree of community, or the *summum genus*,] is existence. The lower genus—called *játi*—is such a one as Substantiality—[the common nature of what are called Substances]."

a. Of two natures, the one of which constantly accompanies the other, but not *vice versâ*, the more extensive is called *para* with respect to the other, just as is the case in our employment of the terms *genus* and *species*.

b. Next we have the fifth Category, that of Difference.

Chap. VI.—Difference.

नित्यद्रव्यवृत्तयो व्यावर्त्तका विशेषाः ।

90. "Differences (*vis'esha*), residing in eternal substances, are excluders [of each from absolute identity with the others]."

a. By eternal substances are meant mind, soul, time, place, ether; and the atoms of earth, water, light, and air. Two atoms of the same element, being supposed every way homogeneous with one another, differ only in being two different atoms. It is this ultimate, and not further explicable, difference, that is here technically called *visesha*.

b. We next come to the sixth Category, that of Intimate Relation.

Chap. VII.—Intimate Relation.

नित्यसम्बन्धः समवायः । अयुतसिद्धवृत्तिः । ययोर्द्वयोर्मध्ये एकमपराश्रितमेवावतिष्ठते तावयुतसिद्धौ । अवयवावयविनौ गुणगुणिनौ क्रियाक्रियावन्तौ जातिव्यक्ती विशेषनित्यद्रव्ये चेति ।

91. "Intimate relation [or co-inherence] (*samavāya*) is constant connection. It exists in things which cannot exist separately. Two things which cannot exist separately are those of which two the one exists only as lodged in the other. Such pairs are, parts and what is made up of the parts, qualities and the thing qualified, action and agent, species and individual, difference and eternal substances; [§ 90, *a*]."

a. The seventh and last of the Categories is Non-existence.

Chap. VIII.—Non-existence.

b. The varieties of non-existence are described as follows :

अनादिः सान्तः प्रागभावः । उत्पत्तेः पूर्वं कार्यस्य । सादिरनन्तः प्रध्वंसः । उत्पत्त्यनन्तरं कार्यस्य । त्रैकालिकसंसर्गावच्छिन्नप्रतियोगिको ऽत्यन्ताभावो यथा भूतले घटो नास्तीति । तादात्म्यसम्बन्धावच्छिन्नप्रतियोगिको ऽन्योन्याभावो यथा घटः पटो न भवतीति ।

92. "Antecedent non-existence (*prágabháva*) is without beginning, and has an end. [Such is the non-existence] of an effect previously to its production. Destruction (*pradhwaińsa*) has a beginning, and no end. [Such is the non-existence which may occur in the case] of an effect subsequently to its production. Absolute non-existence (*atyantábhdva*) is that the counter-entity whereof is [viewed] in relation to all the three times [past, present, and future]. For example, [such is the non-existence in the instance where it is remarked that] 'there is not a jar on the ground.' Mutual non-existence [or difference,] (*anyonyábháva*) is that the counter-entity whereof is regarded under the relation of identity. For example, [such difference is referred to when it is remarked that] 'a jar is not a web of cloth.'"

a. The first two cases of non-existence are simple enough—for it is clear that the jar did not exist until

its antecedent non-existence was put an end to by its being formed out of the clay; and that it ceased ot exist when, by a blow, it was reduced to fragments out of which a *new* jar might perhaps be made, but never again *the* jar. The next two cases of non-existence are sought to be defined by opposing them to their contraries. A jar, for example, is *not* on some particular spot of ground. Let the jar be brought and placed there; —it will follow that the jar is *absent* from some *other* spot of ground; —so that *this* kind of non-existence has reference to *all* times. Again, a web is distinguished by being identical with a web, and a jar with a jar: therefore the condition of what is the contrary to this, is given as the definition of the difference between two things that differ.

b. In conclusion, our text-book observes:—

सर्वेषां पदार्थानां यथायथमुक्तेष्वन्तर्भावात् सप्तैव पदार्था इति सिद्धम्।

93. "Since everything is properly included under the categories that have been now stated, it is established that there are only seven categories."

a. Other philosophers regard Power, Resemblance, &c., as separate categories. [See *Siddhánta Muktávalí*, § II. *c.*]

b. Our text-book concludes with the following couplet:—

कणादन्यायमतयोर्बालव्युत्पत्तिसिद्धये ।
अन्नम्भट्टेन विदुषा रचितस्तर्कसङ्ग्रहः ॥

94. "This Compendium of Logical Results was composed by the learned *Annam Bhatta*, in order to perfect the acquaintance of youths with the opinions of *Kaṇáda* and of the *Nyáya*."

a. The *Nyáya* is more strictly the name belonging to the body of opinions promulgated by *Gautama*; the school of *Kaṇáda* receiving the distinctive name of *Vais'eshika*, from their reckoning as a category the 'Difference' (*viśesha*), which *Gautama* does not recognise as a category. [See Ch. VI.]

॥ इति श्रीतर्कसङ्ग्रहः समाप्तः ॥

"Thus is the *Tarka Sangraha* completed."